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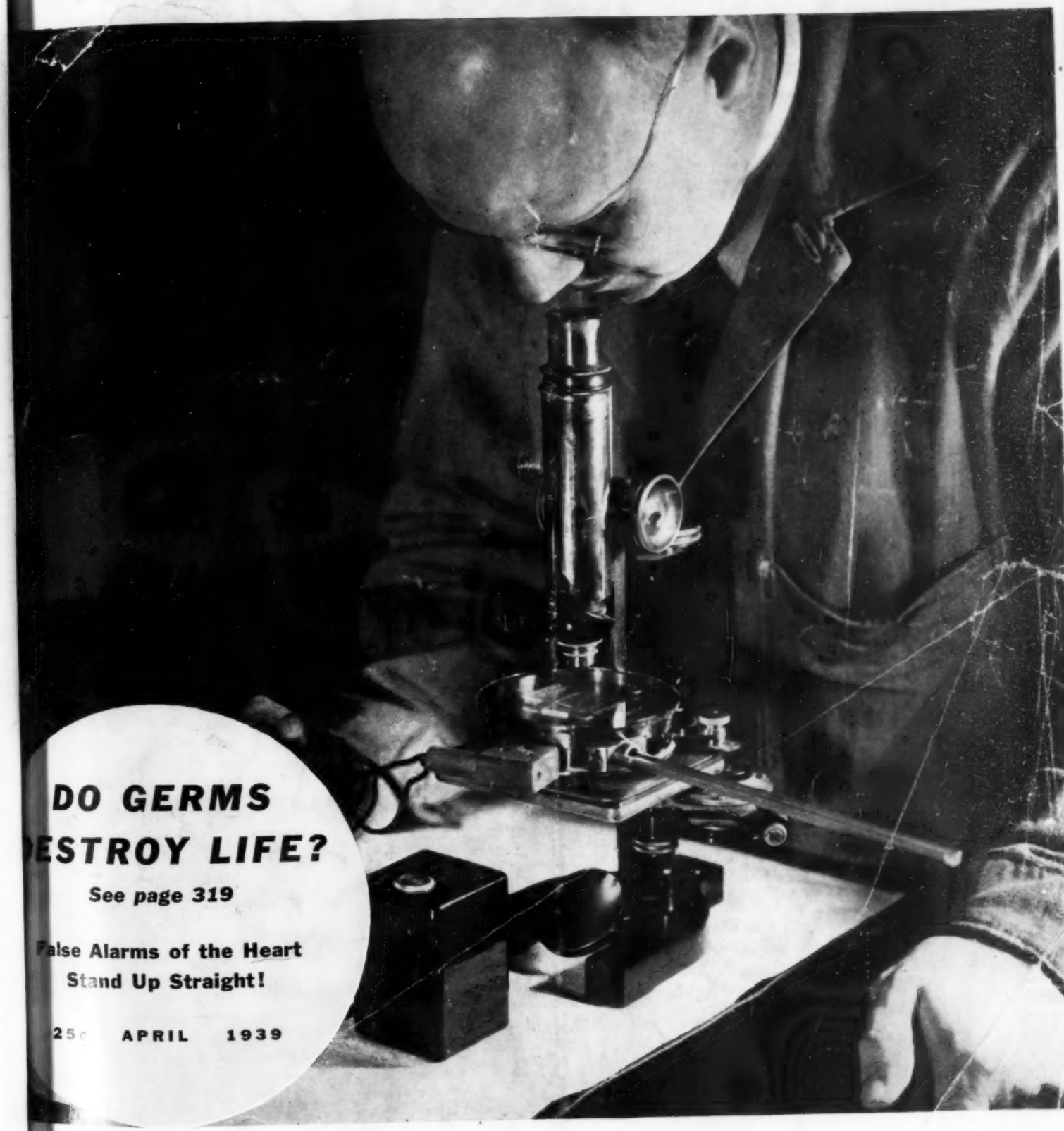
THE HEALTH MAGAZINE

HYGEIA



DO GERMS DESTROY LIFE?

See page 319

False Alarms of the Heart

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AN AMERICAN MEDICAL ASSOCIATION PUBLICATION

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That is why it is vital for you to realize the importance of seeing your doctor *in time.* If you, or anyone in your family, is not feeling up to par, it may be dangerous to put off summoning your doctor—to think "I'll wait and see how I feel tomorrow."

For tomorrow—or a week from now—Time may have piled up tragic obstacles on your road to recovery. Copyright, 1939, Parke, Davis & Co.

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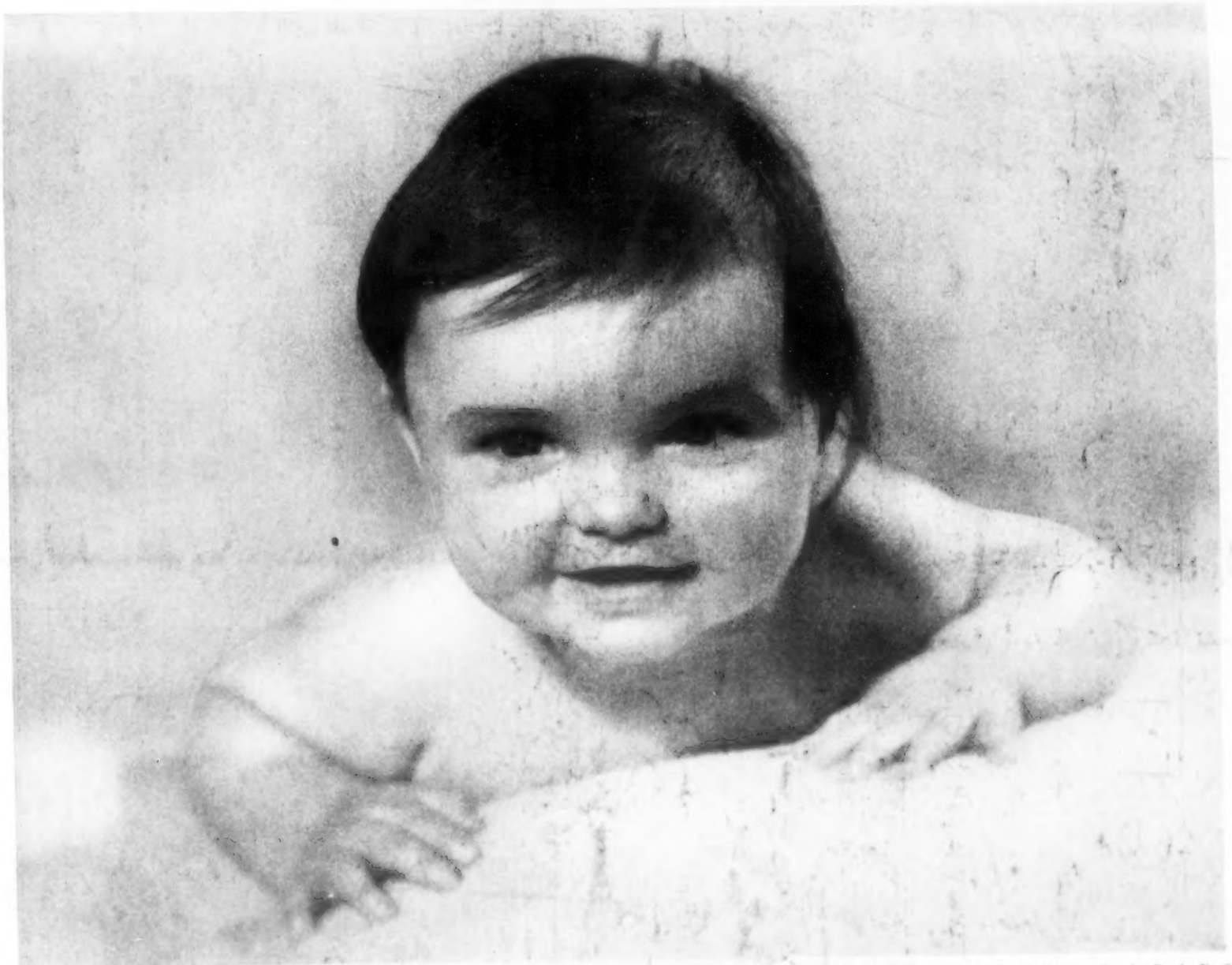
SEE YOUR DOCTOR



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APRIL 1939 Vol. 17 No. 4

HYGEIA

THE HEALTH MAGAZINE

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WHO'S WHO IN HYGEIA

RICHARD L. SUTTON JR., M.D., Kansas City, Mo., may be writing currently on the subject of cancer, but he is well qualified to write of the lore of other lands. While still a student in medical school, he was encouraged to make good grades by his father's promise of a year of travel and big game hunting. On the attainment of these high marks at the University of Michigan Medical School in 1929, the two men departed for Europe, Africa, the Federated Malay States, Indo-China and the Far East. He is a licentiate of the Royal College of Physicians and Surgeons of Edinburgh and co-author with his father of "Diseases of the Skin" and "An Introduction to Dermatology."

ERNST P. BOAS, M.D., New York City, is a cardiologist and a teacher. After graduating from Columbia University's College of Physicians and Surgeons in 1914, he returned to teach at intervals up to 1926, when he was installed as a postgraduate instructor of diseases of the heart. Among Dr. Boas' present appointments is membership on the Board of Directors of the Welfare Council of New York City and the chairman of the Committee on Heart Disease of the New York Tuberculosis and Health Association. Dr. Boas is the author of "False Alarms in Heart Disease" in this issue.

DUDLEY J. MORTON, M.D., New York City, is the author of three books—one for the profession, two for the people—besides being an orthopedic surgeon and anatomist. His most recent book bears the same title of his article currently published in HYGEIA, "Oh, Doctor! My Feet!" He is now an associate professor of anatomy at the College of Physicians and Surgeons, Columbia University and research associate at the American Museum of Natural History, New York City.

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LETTERS FROM *Readers*

Correction

To the Editor:

I do not often write letters to editors criticizing articles. The March issue of HYGEIA has an article by Claude Lillingston describing the plague in Byzantium (Constantinople) in 540 B.C. This plague took place in 540 A.D. and not B.C., which is not a typographic error as the author makes much of the fact that a perfectly rational attitude existed toward this illness centuries before the Christian Era.

This does not make any real difference to the article; but it is a woful example of carelessness. Procopius lived in the days of Justinian and his wife Theodora, whom he lampooned in his history of the times, and the affair is fully documented in Gibbon's "Decline and Fall."

J. MARKOWITZ, M.D.

Toronto, Canada.

▲

Birth Control, Pro

To the Editor:

Although I am not a regular subscriber to HYGEIA, I read the magazine occasionally and have great admiration for it. It seems to me that the value of the magazine would be increased if you could have more articles dealing with such subjects as: (1) health in relation to the size of family; (2) the effect of birth control or contraceptive practices in general on health; (3) the relation of size of family and health in the different classes of society.

I might add a number of other subjects. The point is that today physicians have few responsibilities greater than those related to the type of families and the physical condition of the people who produce children. For example, as you may know, I wrote a book on "Season of Birth." There I presented evidence that children conceived at certain seasons are more vigorous than those conceived at other seasons. This is a sample of the kind of subject which I believe HYGEIA ought to deal with.

ELLSWORTH HUNTINGTON

Yale University

New Haven, Conn.

▲

To the Editor:

In answering my suggestion made some time ago that it would be desirable were HYGEIA to publish an article on birth control, you countered the proposal by stating that there is so "little actually established as useful and practical in the field of birth control" that you have not felt it would be in accord with the aim of the magazine to take up discussion of the subject. One assumes that your objective is to direct people and keep them on the road to health, but contraception is one of the most useful tools for coping with some otherwise hopeless situations. How you can say that there is little actually established as useful and practical in the light of proved facts is a little bewildering. Is the American Medical Association (Council on Medical Education and Hospitals) being asked to toy with a mere theory, when in a resolution passed by the Section on Obstetrics and Gynecology it is requested to promote thorough instruction in our medical schools on the subject? Is it a dream or reality if *The Journal* of the American Medical Association (April 9, 1938) publishes an article discussing twelve years of experience in "Contraception in Private Practice"? Are medically supervised clinics just playing games when they apply and disseminate this beneficent knowledge, not guesswork?

Advertisements and drug stores have not waited for HYGEIA to wake

up to the fact that birth control has long since passed the theoretic stage and is now a proved actuality. It does seem a pity that the influence you have should not be wielded to the greatest possible advantage.

Mrs. Céleste Crosby Miller
Warrenton, Va.

▲

Birth Control, Con

To the Editor:

Your editorial "Hygeia and Birth Control" in the March issue further convinces us that we did not make a mistake when we renewed our subscription for a period of five years.

Your publication is read and each issue saved, while other magazines are often carelessly scanned.

We particularly like articles pertaining to children of all ages.

J. Emmett O'Harra
Columbus, O.

▲

To the Editor:

We want to commend you on your stand as expressed in the editorial appearing in the March issue of Hygeia.

Rev. Max Satory, Librarian
St. Mary's College
Winona, Minn.

▲

To the Editor:

Please accept the hearty congratulations of one subscriber for your convincing and, I think, courageous editorial in the March issue of Hygeia, defending the pages of this most useful health magazine against insidious use for dissemination, directly or indirectly, of "birth control" information.

The writer is a lawyer and a bachelor, who does not believe in the indiscriminate broadcasting of birth control information. Circumstances have made it necessary for him to act in a parental capacity in rearing two nieces, now of high school and junior high school ages. Since I have received the magazine, I have not only profited personally by studying its interesting contents but have strongly recommended a similar study by my nieces. Conceding the right of others to disagree with me on this subject of birth control information, I submit that the editor is unquestionably correct in holding that such a controversy should not be carried on in the pages of Hygeia. The last paragraph of your excellent editorial aptly assays the degree of interest in general health subjects of the particular group of correspondents mentioned.

Alfred L. Tennyson
Washington, D. C.

▲

Rheumatic Heart Disease

To the Editor:

In the February Hygeia on page 173 under "What's Your Score?" the eleventh question is "Rheumatic heart disease affects only the heart," and the answer to this is "False. Rheumatic heart disease is a generalized disease in which probably every tissue in the body may be involved." This undoubtedly is a slip, for it must mean rheumatic fever and not rheumatic heart disease.

In the same series of questions, the twelfth states, "Infantile paralysis causes the greatest amount of crippling among children." Here, too, I felt was a marvelous opportunity to elaborate on behalf of the heart cripple, for of course there are many more children with crippled hearts than with crippled limbs. In New York City during 1938 there were three deaths from infantile paralysis and over 300 from heart disease. The City Department of Health reported for the same year forty-four cases of infantile paralysis, and, though rheumatic heart disease is not reportable, we know that there are at least 12,000 children with damaged hearts in the same area.

As Dr. Alexander T. Martin of Roosevelt Hospital, New York City, said in a radio talk over WABC on February 7, "Within the narrowed definition of the term 'cripple,' the child with heart disease is not included. Our plea is for a broader definition and conception of this word so that the child with heart disease will gain the same benefits as the crippled child. Only in this way can we look for the control of this dread disease, rheumatism, in much the same way as diphtheria and tuberculosis have been brought under control."

Mrs Edwin H. Koehler,
Executive Vice President,
Irvington House for the care of children with heart disease.
New York City.

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THE NATIONAL HEALTH PROGRAM

IN JULY, 1938, the Interdepartmental Committee to Coordinate Health and Welfare Activities of the United States government held a conference in Washington, at which for the first time those in attendance heard the details of the proposed National Health Program. Briefly, it is proposed that increasing sums be allotted for the public health so as to reach within ten years from now an annual appropriation of $850,000,000 each year. Also it was proposed that there be a tax of approximately 4 per cent on the national income to provide approximately $2,800,000,000 a year to be used in setting up a compulsory sickness insurance program under which medical care would be paid for by government agencies for all the people of the United States. Since July this program has been discussed extensively by great numbers of people in all sorts of public forums and meetings. Obviously there can be serious differences of opinion as to the most desirable manner for accomplishing the objects to be achieved and as to the possibilities of integrating such a far-flung program into the American economic scheme.

After the National Health Conference, various committees were established by the American Medical Association, the American Hospital Association, the American Dental Association, the National Medical Association and many other bodies, which have from time to time conferred with the Interdepartmental Committee. Moreover, the House of Delegates of the American Medical Association, which is the representative body of the organization, gave careful consideration to the National Health Program and indicated its point of view concerning many of the specific features. Essentially the House of Delegates approved expansion of public health services where the need could be shown; approved medical care of the indigent according to local determination of the need and local administration of the service; recommended compensation for disability due to illness, and expressed unalterable opposition to compulsory sickness insurance. This opposition rests not only on scientific medical objections to such plans—as they tend to deteriorate medical service, destroy initiative and introduce a third party between the doctor and the patient—but also because such plans may be considered an insidious attempt to break down the American democratic system of government. Such plans take from the worker all individual responsibility for his health as well as the control over the funds that he earns by his work.

After Congress convened in January, the President of the United States sent to Congress the proposed National Health Program along with a message. It was at once apparent that the numerous conferences of the various committees with the Interdepartmental Committee had come to naught and that the program as sent to Congress was essentially the same as that presented to the conference in July. In sending the message to Congress the President expressed great satisfaction from the increase in the average length of life in our country and from the improvement in the average levels of health and well-being. He recognized as well the fact that the health of the United States during recent years has been the best in its history and, in fact, well up to that of other great nations in the world. He therefore recommended the report of the Interdepartmental Committee for careful study by Congress.

Now Senator Wagner of New York has introduced into the Senate a measure to make effective some of the proposals of the National Health Program. Briefly, it is proposed to spend immediately more than $98,000,000 on expansion of preventive medicine, particularly with relation to maternal and infant welfare, the care of the crippled, the care of those with mental diseases and the care of the indigent. It is proposed also to provide compensation for those disabled because of illness and to aid the various states in setting up new plans of medical care. During the ensuing years it is proposed to spend more and more money for these purposes. An analysis of the Wagner Act and an editorial comment on some of its features appears in *The Journal* of the American Medical Association for March 11. *The Journal* emphasizes particularly the great vagueness of some of the proposals and also the extraordinary powers conferred by this measure on the Secretaries of Labor and the Treasury and on the head of the Social Security Board, as well as on the officers under these chiefs who will bear the chief responsibility for allotting the funds and approving the plans, which may be developed in various states. Moreover, the measure proposes to make the state health officers in the individual states chiefly responsible for developing plans and for supervising them, subject only to approval of their plans by the federal officers who have been mentioned. The Wagner Act demands the most serious consideration, because enactment of all or any part of this act will initiate a new trend in the control of public health in the United States.

By IRVING WILSON VOORHEES

WHAT DID YOU

"DON'T SHOUT at me, I'm not deaf!" you say. But, of course, we *are* deafened, every one of us. We do not know it, to be sure, but the defect is there just the same, for it can be measured and charted. Even then, seeing may not be believing. Nobody admits that he is deafened; at most he is only "slightly hard of hearing." "Speak a little louder, please!" But we may even then be forcing our voice to a traumatic laryngitis. Still the deafened does not hear. He often complains of our way of speech. "Why does everybody mumble and jumble his words? Why don't people speak distinctly?"

He has a point there. Many persons seem never to have learned to talk. They keep the jaws nearly closed, move the lips as little as possible and effect an imitation of Edgar Bergen. But there is this difference: Although you watch Edgar ever so closely, you cannot *see* him talk; but his speech comes to your ears with absolute clarity. Charlie? oh yes, Charlie McCarthy, you can see him speak, for his jaws, lips and tongue move in a waggish way; yet the sound comes not from Charlie, but from his lord and master, Edgar the Ventriloquist.

A distinguished surgeon and an otologist were driving into town in an auto with the former at the wheel. The ear specialist being of a talkative turn kept up a running fire of conversation; that is, he did for a while but eventually became fatigued and lapsed into silence. When they reached the medical office building, the otologist said: "Tom, park your car, and come to my office."

"Can't, I'm in a hurry. What's the riot?"

"Well, I want you to come in so that I can examine your hearing."

"Examine *my* hearing! You must be crazy! Why, I hear perfectly."

"Fine! Glad to know it, but do you realize that after every sentence I uttered on the way in, you asked for a repetition? You said 'huh' and 'wot' and 'beg pardon,' and 'excuse me' at every fifth word."

"Who? Me? Impossible! I heard every word you said."

"Ah, I thought so. Maybe you heard but didn't heed. Let's find out."

And so, up they went to the aurist's office. Tuning forks, an audiometer and other paraphernalia were produced; the surgeon responded to every test with alacrity and exactness.

"Well," said the aurist. "Inattention deafness. I thought as much. Now look here, if ever you say 'huh' or 'wot' to me again I'm going to plant you one right between the eyes. You're not deaf, oh no! but dumb, yes, plenty!"

The surgeon pondered this strange happening all day long. How could it be? He never knew that he was making a nuisance of himself to every one with whom he came in contact. Asking for a repetition was simply a method of sparring for time—time to turn the idea over in his mind and work up an answer.

Every human being is guilty of this peculiar offense, even children who have no obstruction or infection in or accident to the ears. Johnny cannot hear his mother tell him that it's time to go to bed or to go to Mrs. Jones' house with the plate she borrowed. Sometimes, he can't hear the call to dinner, and that is really serious!

Good old Mother Nature has provided us with much more hearing than we need. This is possibly a holdover from what is left of our arboreal, ancestral talents. In our primitive state it was imperative that we hear the approach of an enemy miles away, particularly in the jungle where visibility was low and mortality high. But we have lost much of this acuity as a tribute to what we are pleased to call civilization. The noises of a great city dinning into our ears the livelong day have destroyed or diminished much of the original acuteness of the auditory sense which was once our birthright. We live in a sea of sounds, which are adventitious, not advantageous, and have no needful meaning for us. This is the first and most important cause of inattention deafness. A boy sits reading in a room full of people buzzing with conversation and yet hears nothing because he is deep in the doings of "Dick the Detective." He resents being aroused and quickly settles down again as soon as the intruder moves away.

SAY?

Saibelmann Syndicate

Our range of hearing is not always uniform throughout the scale but may contain islands of hearing interspersed with areas which are nearly without function. Though this is not true of all persons, it is frequently found. Many deafened people hear high voices well but low ones poorly or not at all. Or they may heed a deep bass tone and miss entirely the soprano voices of women.

One of the first signs of diminished hearing is a confusion of like sounds, especially at table or in a group of "cross conversation." *Boy*, for example, will be confused with *toy*, *girl* with *curl* and *he-man* for *demon*. Not wishing to seem "dumb," the deafened begins to guess and often makes strangely ludicrous errors, which bring a roar of laughter. This embarrasses him, causes him to withdraw further and further away from society, to become introspective, moody and highly sensitive. If any one laughs heartily, the deafened one will immediately assume that the joke is on him and will resent it deeply.

Serious and troublesome elements in deafness are head noises. These may be of all kinds, from the whistle on the peanut stand to the roar of Niagara. Noises are often so continuous and omnipresent that they drive the sufferer to distraction.

Head noises are entirely subjective; they are never heard by any one save the deafened man himself. The origin of noises becomes a matter for deep speculation by the possessor, and since no one knows just how these noises are produced, speculation only makes toleration the harder. Moreover, head noises, or tinnitus aurium, are incurable. Occasionally, noises disappear spontaneously, and when this happens the credit for a "cure" is certain to be given to the most recently applied remedy. These subjective sounds are particularly distressing and may craze the patient to the point of self destruction. Deafness, even total deafness, is a boon compared to the surging tide of violent and uncontrollable head noises, which go on ceaselessly and endlessly in spite of all efforts to stop them. Now and then an extensive surgical operation may end this; but it is by no means sure fire and destroys whatever residual hearing is present.

Our poor ears are often made to suffer for sins of which they are not at all guilty. This is especially true in cases of earache. Some of us still remember the hot oil that grandmother used to pour into our ears in childhood. Since the remedy was so much worse than the disease, we soon learned to bear an earache with a grin and say nothing about it. This may account in some instances for deafness in later life. It certainly is remarkable what a variety of objects people will put into their ears. The eye is guarded zealously, and few of us meddle with a painful eye but go promptly to a doctor. The ears, however, located as they are alongside

the head, receive much less respect and are subject to all sorts of indignities, not to say punishments. Here is a case in point.

Mary came to the clinic with the story that four days ago she felt pains in her right ear, and on the advice of "a friend," she melted the end of a tallow candle and allowed the grease to drop into the auditory canal. Although the pain was frightful, she hoped that after getting worse it would soon be better. But this great boon did not come to pass. Instead, the entire right side of her head pained excruciatingly. Added to that, she found that she couldn't hear a thing in the right ear. Then the bright idea came to some one in the family that it might be a good plan to see a doctor. And that's why Mary appeared one day in the clinic.

Well, it didn't take much of an examination to find out what the trouble was. The right ear was packed full of candle grease, which clung to the walls and shut out all sound completely. Looking into the mouth, the real enemy was discovered to be a carious, or decayed, upper third molar or wisdom tooth. The pain from this aching tooth was misinterpreted by the brain and the cause referred to the ear, hence the tallow. Removal of the tooth was simple enough; but removal of the tallow from the ear was a feat of force. It required well over an hour. When the job was finished, it was found that Mary's eardrum was practically destroyed. A discharging ear resulted, and it took many weeks of treatment to stop the pus. Healing resulted but with a large perforation in the drum and marked loss of hearing.

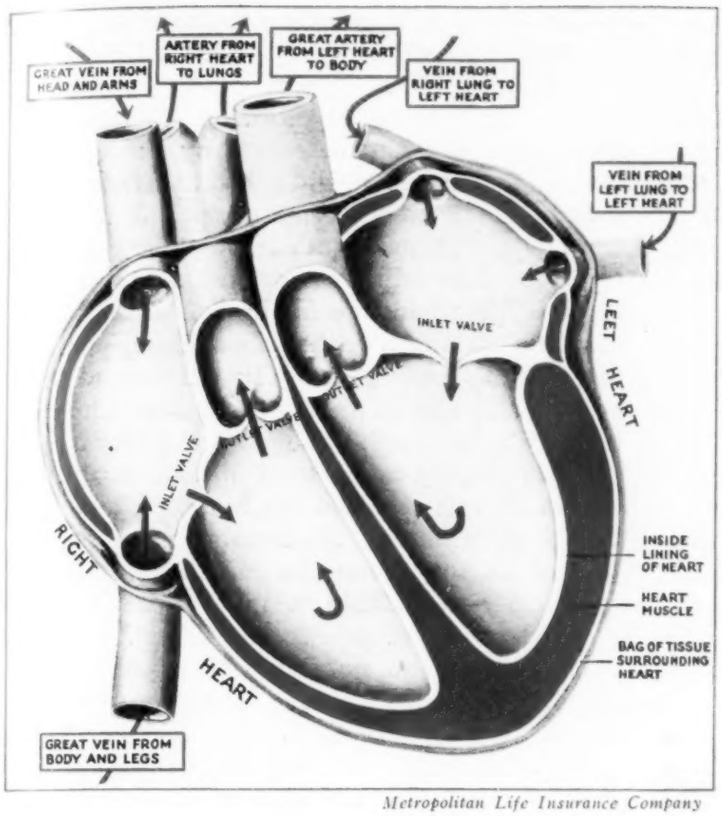
How well can you hear? A fair enough question, but how many other people in the United States are also hard of hearing? An organization with headquarters in Washington, D. C., known as the American Society for the Hard of Hearing, recently made a rather thorough survey of this matter, and they concluded that among the school children of the nation, 30 million in all, some 10 per cent—or 3 million—have defective hearing. This is deplorable; but worse yet is the fact that neither the children nor their parents realize that impaired hearing is present. The condition goes on, therefore, to a point where little can be done by the time the child has grown to adolescence.

Insidious deafness continues in spite of the advocacy of preventive measures, such as removal of tonsils and adenoids and treatment of colds. It is estimated that 14 million adults in this country are partially deaf. However, a movement is now under way to examine the ears of every child of school age. In 1937, 1,062,373 school children were tested, but this is only a beginning. The important thing is to see that proper treatment is instituted at once. Of course this takes time that is valuable to the school child, and treatment costs money. However, these deafened children suffer in a social way both directly and indirectly from their disability. Many of them are hurt in the streets, or they become introverts, hence antisocial, and they may develop criminal tendencies. They are avoided by playmates or are made the butt of ridicule, are thrashed or scolded by parents and regarded by teachers as just plain stupid.

In one of the states on the eastern seaboard there is a school for the deaf. A casual observer took a notion that some of the children might not be so deaf after all and that an otologist might be able to reclaim or relieve some of them. Accordingly, two children were picked out, taken to an aurist, or otologist, and examined. Each of them had had chronic running ears since infancy. One boy was scorned and abused by the other pupils and kept out of classroom as much as possible because of an objectionable odor from the discharge. Growths known as aural polyps were found to be growing in the external auditory canals, blocking the entire passages. These were removed; treatment of the foul discharge was undertaken, and eventually the boy was so improved that he could be taken out of the deaf class and seated with normal children. A like condition existed in the older boy, now fast approaching manhood. He has improved under constant care, but it may become necessary to do a radical mastoid operation in order to effect a cure of the discharge. There will, of course, be much damage to hearing no matter what the ultimate outcome of the pathology now present. Had this boy been cared for at the age of 8 or 10 instead of at 18, one might have salvaged a large percentage of his hearing.

Relief of deafness may be accomplished by so simple a measure as removal of wax. Very often, though, it is not so simple. If there are obstructions in nose or throat or nasopharynx, the space at the "roof of the throat," these require not only surgical removal, but postoperative treatment to make sure that the eustachian tube leading from the pharynx to the ears is open and that it remains open.

Aural problems are distinctly in the province of the otologist—a man who is equipped by special training and experience to deal not only with deafness, but with diseases which affect the balance sense or sense of equilibrium, brain conditions of aural origin and disturbances of nerve origin in cooperation with the neurologist.


GREAT VEIN FROM HEAD AND ARMS
ARTERY FROM RIGHT HEART TO LUNGS
GREAT ARTERY FROM LEFT HEART TO BODY
VEIN FROM RIGHT LUNG TO LEFT HEART
VEIN FROM LEFT LUNG TO LEFT HEART
INLET VALVE
LEFT HEART
OUTLET VALVE
INLET VALVE
RIGHT
HEART
INSIDE LINING OF HEART
HEART MUSCLE
BAG OF TISSUE SURROUNDING HEART
GREAT VEIN FROM BODY AND LEGS

Metropolitan Life Insurance Company

THE BLOOD FROM THE BODY FLOWS INTO THE RIGHT SIDE OF THE HEART AND THEN GOES TO THE LUNGS TO GET RID OF CARBON DIOXIDE AND ABSORB OXYGEN. THE BLOOD NEXT RETURNS TO THE LEFT SIDE OF THE HEART AND IS PUMPED OUT TO THE BODY IN ARTERIES.

False Alarms in Heart Disease

By ERNST P. BOAS

THE HEART is known as the organ of life and health. It has become the symbol of life and the accepted source of our deepest emotions. You are "heart sick," "broken hearted," you say "your heart stands still," your heart is "in your throat" or "drops to your boots." No wonder then that when you believe there is something wrong with your heart you are seized with panic, usually all out of proportion to the danger involved. You accept with far less worry a serious disease of the stomach, the liver or the kidney. The circumstances that most often lead to fear of heart disease are the discovery of a cardiac murmur or the experience of pain in the heart region.

Often a child after undergoing a routine physical examination at school comes home with a report that a cardiac murmur has been found. The parents are thrown into a panic; their thoughts racing, they see their child as a cardiac cripple. The fear of a lurking heart malady drives them to treat what perhaps is a healthy child as though he were ill. Even when examination by the family physician has proved that there is no heart disease, most parents in their anxiety persist in believing that their child's heart is damaged. In many instances, both in adults and in children, these anxieties have no valid basis, for the murmur may not signify disease.

What is a murmur? The physician listening to the heart with a stethoscope hears a regular succession of sounds that may be reproduced by the sounds "lubb-dupp, lubb-dupp, lubb-dupp." In some persons these normal sounds are accompanied by other sounds, called adventitious sounds or murmurs. A swishing noise may accompany the first sound, giving rise to something that sounds like "lubbshshsh-dupp." This is called a murmur. What does the presence of such a sound mean? If, as a result of disease, the valves of the heart do not close tightly, the blood rushing through the imperfectly closed or opened aperture forms eddies or whirlpools that are heard as murmurs. Sounds arising in this manner are indicators of disease of the heart. But there are other murmurs that originate in a totally different manner. These are not caused by any disease or malformation of the heart; the mechanism of their origin is not always clear, but it is certain that they do not arise in the heart itself and that they represent chance sounds that accompany the cardiac contraction. These are functional, accidental or extracardiac murmurs. When the heart contracts, it strikes against the chest wall; slight alterations in the character of the impact may cause these murmurs. These accidental murmurs may appear when the patient lies down and disappear when he stands or when he takes a deep breath. As far as the actual character of the sound is concerned it may resemble closely a murmur caused by valvular leaks.

The discovery of any murmur calls for careful investigation by your physician. In the evaluation of a murmur he will first determine whether or not the patient has had any rheumatic infection, for rheumatic fever is the chief cause of leaking heart valves in children and young adults. A murmur is due most probably to a damaged heart valve, if the person has had a rheumatic infection, such as articular rheumatism, St. Vitus's dance or so-called growing pains. Next the doctor will listen to the murmur to study its characteristics. As a leaking valve is invariably followed by enlargement of the heart he must determine the presence or absense of such enlargement. This he must do with the accurate eye of the x-ray or fluoroscope.

Such an examination enables the physician to ascertain whether a murmur indicates a leaking heart valve, or whether it is a so-called accidental murmur of no significance. If it is not due to organic heart disease, the patient should ignore it. It is a factor of less importance in his life than whether his hair is dark or blonde, whether he is tall or short. He can lead a normal active life. But if the murmur is due to a leaking valve, the patient must be guided by his physician. His life will be conditioned by the nature and extent of the heart lesion. Such organic murmurs often are not as grave as many suppose, and a heart with a leaking valve may do its work without faltering for many years.

We have learned to associate heart pain with serious disorder of the heart, so that any pain in the heart region causes great alarm. Usage in everyday speech refers painful sensations in the chest to the heart. So we speak of heartache, of being heart sore, of having a heart-rending experience. The average layman is sure that pain felt in the general region of his heart arises from some disease of this organ and gives warning of illness or impending death.

Pain is the leading symptom of one of the most common forms of heart disease of adult life. Angina pectoris, the real heart pain, is the presenting symptom of disease of the arteries that nourish the heart itself, of arteriosclerosis of the coronary arteries. It can rarely be mistaken. It is felt, as a rule, under the breast bone or a little to the left of it; it is not felt while the person is at rest but comes on after exertion, when walking or when under emotional strain; it is an unmistakable clamping, pressing sensation which cuts the breath short and compels instant stoppage of whatever one is doing. After a few moments' rest it disappears, and the patient feels quite well again.

The majority of painful sensations felt in the heart region do not signify disease of the heart. This is particularly true of young people, who often complain of sharp sticking pain about the heart, and of women, especially those whose blood pressure is a little high. These pains differ from those of angina pectoris in that they are steadier, more continuous. They bear no direct relationship to exertion, although they often come when one is tired or upset. Most often it is a sharp cutting or sticking pain felt beneath the breast; it may be burning, or there may be a feeling as though there were a lump in the chest. Although these pains are very annoying and usually cause great apprehension, they do not compel rest and are not associated with a real throttling of the breath. At times the patient feels as though he cannot fill his lungs, but finally he is able to take a deep sighing inspiration and at once feels relieved. Pains of this character do not indicate disease of the heart, nor do they give warning of future or impending heart trouble. Their cause is not fully understood, but they are due apparently to a neuralgia-like condition of the nerves that go to the heart.

There are many disorders of the chest that give rise to pain in the heart region, a pain that is commonly mistaken for a heart pain. Of these pleurisy is one of the commonest. Often a neuritis of the intercostal nerves that encircle the chest gives rise to pain over the heart. Such a neuritis is often due to arthritis of the spine. The pain may be due to some irritation of the ribs or of the cartilages of the ribs.

Many patients enter the doctor's office depressed and tragic because they are convinced that the chest pain of which they complain is a sign of serious heart disease; but they have nothing wrong with their hearts. Of course, every such pain merits a physical examination and study by a physician. In arriving at a conclusion in regard to the significance of such pain the doctor first inquires carefully into its character. A clear picture of the sensations felt by the patient is the most valuable element in the diagnosis. Then there must be a complete examination, not of the heart alone, but of the whole body to discover or exclude other factors that might give rise to such pain. Finally, an electrocardiogram must be taken. The electrocardiogram is a photograph of the shape of the electrical wave that passes over the heart with each contraction. The experienced physician can tell by studying this tracing whether or not this wave has a normal or abnormal form and deduce from this whether there has been any injury to *(Continued on page 346)*

DUDLEY J. MORTON
contributes an article from his book of the same name

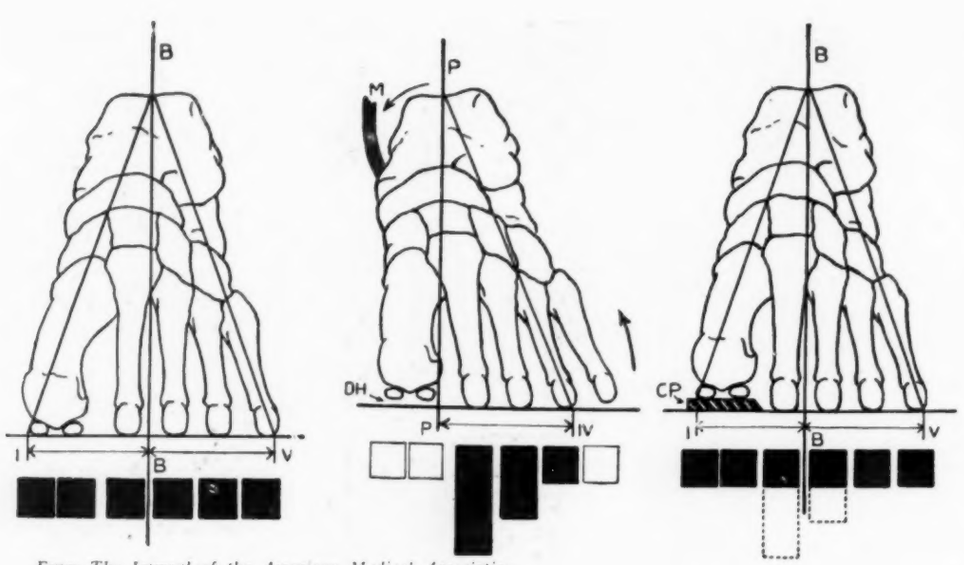
Stephen Deutch

"OH, DOCTOR! MY FEET!"

ACHING, pain-galled feet are among the commonest of the minor afflictions that beset mankind. Seven out of ten persons suffer from foot ailments of varying severity. A recent survey of male college students disclosed that 40 per cent of undergraduates have "foot conditions capable of producing serious symptoms or of limiting the individual's normal activity." These foot troubles range from the nagging discomfort of corns and calluses, to the total disability of completely broken-down feet. Countless young children have the notorious "weak foot"; adults complain of acute footstrains, exaggerated under the pressure of economic need, and the activities of older persons have been seriously curtailed by persistent foot disorders.

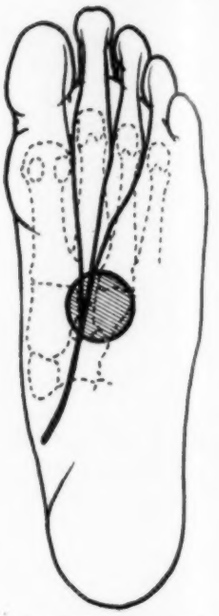
Yet despite the prevalence and gravity of foot trouble, the average sufferer rarely receives the medical interest and care essential to foot health. The occasional indifference of a general physician to the foot ills of his patients has relegated the care of feet to persons outside the medical profession. The resulting confusion and bewilderment is unparalleled in any other field of therapy. Pain-racked housewives, salespersons and others who are compelled to stand on protesting feet seek desperately for relief; yet for the most part their search is expensive, tedious and unfruitful.

In an effort to counteract their pedal handicaps, Americans spend hundreds of millions of dollars annually on several hundred brands of "corrective" shoes or devices, most of which are



From The Journal of the American Medical Association

THE RESPECTIVE RATIO OF WEIGHT DISTRIBUTION ON THE METATARSAL BONES IS INDICATED BY THE BLACK SQUARES UNDER THE NORMAL, THE FAULTY AND THE CORRECTED FEET. B IS THE PLANE OF THE BALANCE OF WEIGHT WHEN IT IS EVENLY DISTRIBUTED; P SHOWS WEIGHT SHIFTED TO CENTER THREE METATARSALS WHEN FIRST ONE IS TOO SHORT. CORRECTION IS MADE WITH COMPENSATING PLATFORM (CP) WHICH LIFTS THE BONE TO A WEIGHT-BEARING POSITION.



CHARACTERISTIC POINT OF DEEP TENDERNESS, AS INDICATED BY SHADED CIRCLE, IS CLOSE TO THE MEDIAL PLANTAR NERVE AND BRANCHES.

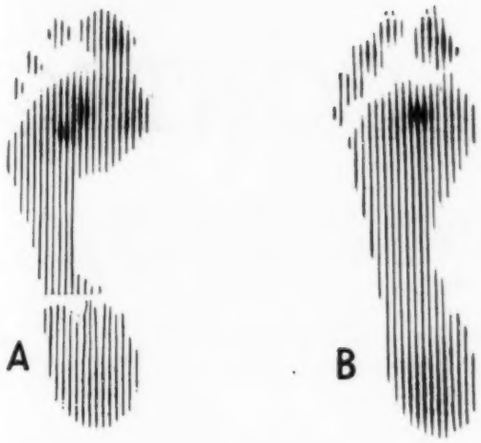
of questionable value. Public information about foot troubles is based chiefly on the writings of persons without clinical experience and on the commercial propaganda of shoe manufacturers, who have slight anatomic knowledge of the conditions they profess to treat. Orthopedic ideas in vogue at the close of the last century still rule with a dead hand. Indeed, if we except the improvement in the general design of shoes since the World War, the rationale of foot treatment has not changed materially during the last forty years!

Two archaic explanations are usually advanced to account for most foot troubles. The first is "faulty footwear"—a solemn hangover from the atrocious shoe designs of the nineteenth century. A second explanation, equally shopworn but with even less foundation in fact, is the vague phrase "weakness of foot muscles and ligaments." Examination of many thousands of feet during the World War was convincing that these explanations simply did not get to the bottom of the trouble nor offer a satisfactory basis for treatment. Subsequent studies disclosed that certain anatomic conditions of the bony framework of the foot were responsible for the foot troubles of modern man.

Suppose we take a preliminary glance at the anatomy and function of the human foot. Essentially it is a shock-absorbing bridgelike structure that supports and carries our bodies in the vertical position peculiar to human beings. As you can imagine, the stresses on the framework (the bones and ligaments) of the foot are terrific; measured in engineering terms they represent 250 tons for every mile walked. But due to the ingenious architecture of the foot, all this weight does not fall on any single bone. When we are standing, half the weight of the body goes down each leg and falls squarely on the talus, a wedge-shaped chunky bone located at the ankle. This bone transmits half our weight to the heel; the other half is distributed among five slender bones called metatarsals, which run like fingers down the forepart of the foot. When walking or running, all the weight is thrown forward onto these metatarsal bones. It is this metatarsal region in which fully 90 per cent of functional foot disorders arise!

"If the normal distribution of body weight among these five critical bones could be scientifically measured," I reasoned, "any departure from this norm could be interpreted as a danger signal." Since no such measuring apparatus existed, I devised a staticometer, a complicated instrument which determined the exact proportion of weight borne by each of the metatarsals. This machine showed that for a person weighing 120 pounds, the weight distribution when standing was as follows: to each foot 60 pounds, to each heel 30 pounds; to the first metatarsal (behind the big toe) 10 pounds; to the second, third, fourth and fifth, 5 pounds each.

We may compare these five bones to a man and four boys carrying a log on their shoulders.



ABOVE ARE KINETOGRAPHIC PRINTS SHOWING IN DARKENED AREAS WHERE THE BODY WEIGHT FALLS IN THE TWO X-RAYS OF FEET AT RIGHT, RESPECTIVELY. IN A, THERE IS LOOSENESS OF THE FIRST METATARSAL BONE. IT IS INDICATED BY ARROWS AT THE WIDENED JOINT. IN B, THE BODY WEIGHT FALLS ON THE ELONGATED SECOND METATARSAL; THE DIFFERENCE IS SHOWN BY COMPARATIVE LINES DRAWN IN.

The man (the first metatarsal bone) normally carries twice the weight of any other member. But now for a strange discovery! When painful foot cases were examined, it was found that the first metatarsal bone was shirking its share of weight bearing and was thrusting its burden on the adjacent bone. The x-rays revealed in these cases that the slender second metatarsal bone had become enlarged because of its extra load (its own burden, plus that of the first). This enlargement of the second metatarsal is an unfailing signal of disordered foot function!

But why, you ask, should the first metatarsal fail to perform its function as a weight bearer? There are two principal reasons: First, as the x-ray shows, this bone is often short. The shortness of the first metatarsal is due to hereditary causes, and it is really an evolutionary defect based on the fact that the primate foot has more of the character of the grasping hand. In the ideal foot, the first and second metatarsals are of the same length, so that when the heel is raised in walking, the front ends of both these bones act as a pivot and share the burden. But when the first bone is short, the whole weight falls solely on the slender second, placing a terrific burden on its joints and causing intense abnormal strain inside the foot. Furthermore, the head of this bone is thrust violently toward the ground, forming callus growth directly underneath it. A woman wearing high heeled shoes is walking almost on this single bone alone; callus formations in this area are common among women who have painful feet.

The second cause of disordered foot function occurs when the ligaments of the first metatarsal are so lax that they permit the bone to wobble like the loose leg of a chair. In this condition, the first metatarsal again fails to perform its weight-bearing function; once more the second metatarsal is called on to assume the brunt of the burden. As a result, the foot rolls inward, and this uneven distribution of weight causes the condition spoken of as "fallen arches" or "flat feet."

A low-arched foot, despite a universally popular opinion to the contrary, may be a perfectly good foot; half the barefooted population of the earth have low-arched feet. It is when feet sag into the "weak ankle" posture, due to a lax first metatarsal which has failed to give the foot its proper support, that attention is necessary. Here, instead of falling squarely on the ankle, the weight of the body rolls inward against the muscles and ligaments and pulls the whole foot mechanism after it. This foot is like a condemned building held up by buckling girders and is saved from collapse only so long as its ligaments and muscles can withstand the strain.

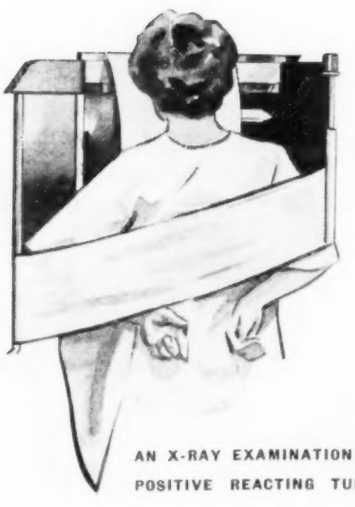
It is at this point that the prevailing interpretations of foot trouble go completely astray. "Weak muscles" are erroneously blamed for the collapse of the arch. But tests have proved that the muscles which run under the arch of the foot are not directly *(Continued on page 368)*

TUBERCULOSIS CONTROL

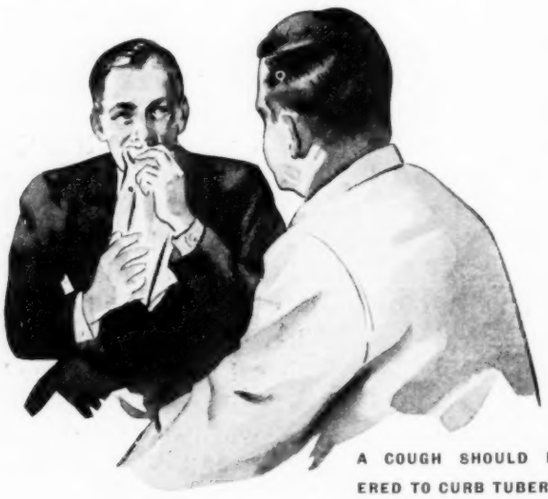
BOVINE TUBERCULOSIS ENTERS THE BODY IN MILK FROM INFECTED DAIRY COWS.

Many public measures have been instituted in order that our communities be protected from tuberculosis, such as:

1. Provisions for establishment of tuberculosis dispensaries, clinics and sanatoriums.
2. Visiting nurse service for supervision of cases in the home as well as for seeing that possible cases are examined.
3. Reporting of all active and incipient cases to health authorities.
4. Thorough investigation for contacts and examination.
5. Ventilation and elimination of dust from places of employment and public meetings.
6. Examination of foodhandlers and the prevention of tuberculous persons from handling foods that are consumed by others.
7. Government meat inspection and laws requiring pasteurization of public milk supplies. Tuberculin testing of dairy herds and removal of infected animals.
8. Improvement of housing conditions and nutrition of the poor.
9. Routine tuberculin testing of all grade, high school and college students and x-ray follow-up for those reacting positively.
10. Education of the public on early symptoms and preventive measures through literature, lectures and the radio.



AN X-RAY EXAMINATION SHOULD FOLLOW POSITIVE REACTING TUBERCULIN TESTS.



A COUGH SHOULD BE COVERED TO CURB TUBERCULOSIS.

By **E. A. THACKER**

THE paramount objective of a tuberculosis control program is to reduce the number of sources of infection in order that people may pass through the periods of infancy, childhood and adulthood without infection. The vital importance of early diagnosis must be recognized as of threefold benefit. This includes the welfare of the patient, the protection of the public against open sources of infection and the eventual reduction in expenditures of public and private money for the care of tuberculous patients through the control and eradication of the disease.

The Council on Medical Education and Hospitals of the American Medical Association indicates that there are 1,240 institutions caring for tuberculous patients. Of this number, 807 are supported by federal, state, county and city means; whereas only 433 are privately supported institutions. In a twelve months' period 121,706 admittances occurred. The cost of this hospitalization exceeded $71,000,000. Of these admittances, 84 per cent of the patients received free treatment, 19.2 per cent paid in part, and only 6 per cent paid in full for their care. The total replacement value of these institutions is estimated at approximately $329,000,000. Since the hospitalized cases represent only a small percentage of the active cases of tuberculosis, it can readily be seen that the economic loss due to this disease is almost unbelievable.

The cause of tuberculosis is a microscopic rod-shaped bacterium, known as the tubercle bacillus, first discovered by Koch about sixty years ago. These bacteria are classified into three groups, according to the natural host in which each is found: the avian type occurring in fowls, the bovine type in cattle and the human type. Man may contract bovine tuberculosis by eating infected beef or by drinking or eating dairy products from infected herds. Bovine tuberculosis manifests itself most frequently in the form of tuberculosis of the bone or of the lymphatic glands of the body. Formerly it caused many deformed and crippled children by its damage to the joints and bony framework of the body. It was not unusual to find even the glands involved, which ulcerated and healed slowly. Thanks to the fine cooperation of the state health departments, the U. S. Department of Agriculture, the farmers and the dairies, this type of tuberculosis has been practically eradicated through means of meat inspection, tuberculin testing of herds and the removal of the infected animals and the pasteurization of milk.

The human type is responsible for over 90 per cent of the tuberculosis. It is essentially a disease of the lungs, but it may affect any other organ or tissue. Human tuberculosis is transmitted mainly through contact with discharges of an infected person's respiratory tract, his sneezing and coughing and to a lesser degree by kissing, by using unsterilized eating utensils, pipes, toys, drinking cups or other contaminated articles. As long as the tubercle bacillus is present in the sputum or other discharges that patient is a constant source of infection to others.

The initial or childhood type of infection produces an inflammatory or pneumonia-like lesion in the lungs, and after weeks or months usually completely heals, leaving a small scar or a calcified nodular tubercle. Although children may die from this first infection, the vast majority overcome it. Many persons, particularly children, pass through this initial infection without knowing it. The parents may notice that

PLENTY OF SLEEP KEEPS UP THE RESISTANCE TO TUBERCULOUS INFECTION.

Johnnie is a little below par physically or has a slight "cold" that hangs on for several weeks, or he has lost a little weight. But after a time the child becomes normal again. So that person passes through the childhood type of tuberculosis without a diagnosis being made. The body develops an allergy or sensitiveness to this germ soon after the initial infection occurs. This is the basis for the tuberculin test.

The childhood type always precedes the destructive reinfective or adult type of tuberculosis. The white race enjoys some degree of immunity to the disease and frequently recovers from an active infection without knowingly having harbored it. The Negro, Indian and Mexican are especially susceptible to tuberculosis. It is not hereditary.

The adult type of tuberculosis occurs in one of two ways. The small healed lesions from the initial infection may break down, allowing some of the organisms that have remained alive within the tubercle to spread through the allergic tissues. Or else that person comes in contact with an active case of tuberculosis; the bacilli are taken into the lungs, and the destructive type of tuberculosis begins.

There are approximately 700,000 active cases of pulmonary tuberculosis in this country with about 75,000 deaths yearly. In the early part of this century more people were dying from tuberculosis than any other disease: 200 out of every 100,000 persons perished from this malady. Today in the relatively short span of thirty odd years, the death toll has dropped to 56 per 100,000 population. Tuberculosis now rests in seventh instead of first place as a cause of death. Yes, this reduction has been remarkable; yet we must not be too satisfied with these results, for this disease is far from being whipped! At the present time tuberculosis is claiming more victims between the ages of 15 and 45 than any other disease. It is responsible for one out of every three young women who die between the ages of 15 and 24. This age group particularly should receive concentrated investigation.

The classic symptoms of the reinfective or adult type of pulmonary tuberculosis include loss of appetite, loss of weight, fatigue, unexplained pains in the chest, afternoon fever, pleurisy, cough and sometimes blood in the sputum. Unfortunately, very few early cases produce significant symptoms, which would cause one to seek medical attention. Early tuberculosis ordinarily manifests itself in an insidious, gradual onset, sapping the vitality and strength of the individual, yet producing only vague, indefinite symptoms. A hacking cough often attributed to smoking or fatigue attributed to overwork may be all the patient may notice. It has been frequently mistaken by the person for bronchitis, simple pleurisy, influenza or an ordinary cold, from which he does not fully recover. An active tuberculosis infection may run its entire course without clinical symptoms.

Early diagnosis, isolation and the treatment of these cases are highly important phases of tuberculosis control. Statistics show that 85 per cent of the persons hospitalized for tuberculosis in the early stage, 50 per cent of those in the moderately advanced stage and only 16.6 per cent of those in the far advanced stage resumed work after being discharged as arrested cases. Through early diagnosis and proper care the chances for recovery are excellent; the economic loss to the individual, to the community and to the state and federal government is less, for the period of disability is shortened.

It is necessary to isolate the infected person so the disease will not spread to others. In an effective program a thorough search should be made for persons who have closely associated with the diseased person, and these contact cases should have the benefit of a physical examination, including the tuberculin test and x-ray of the lungs, if necessary. Many communities have inaugurated a routine program for discovering the early cases. Grade school, high school and college students are given the tuberculin tests. A positive test means that at some time or other that person has been infected with tuberculosis, as for example, any person who has had and recovered from a childhood infection will show a positive test thereafter. To all intents and purposes, a negative reaction means an absence of infection. This test serves as a screen to sift out those who do not need further investigation.

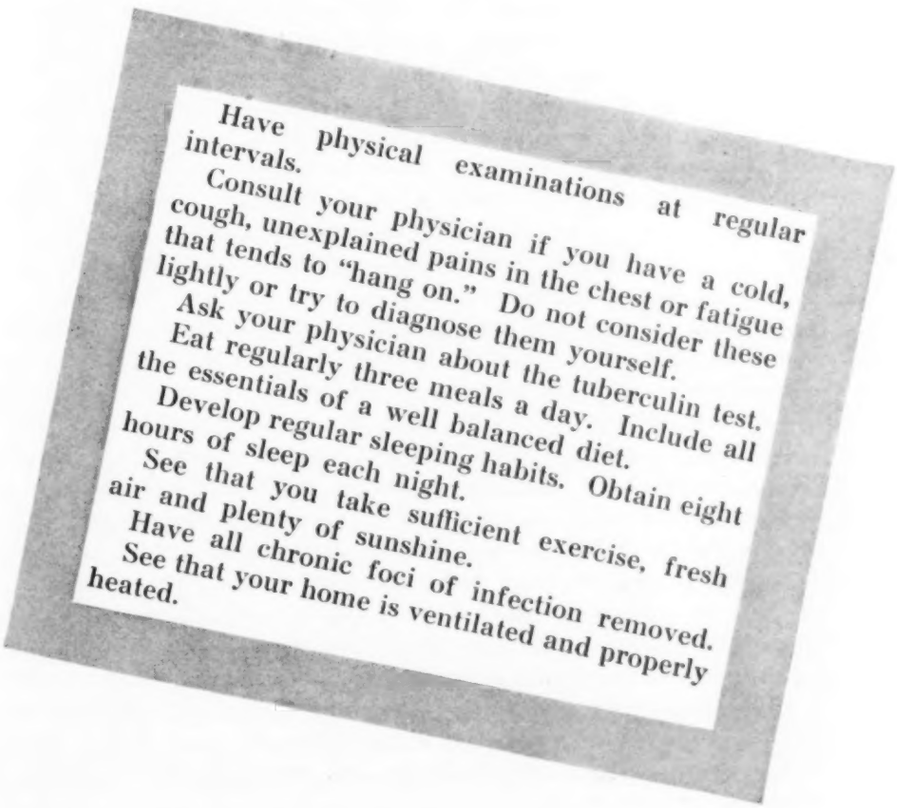
Formerly, it was thought that every one at some time had this disease. Reports vary in different sections of the country. The thicker populated areas show a higher incidence of positive reactors than do the rural districts. However, the average over the entire United States reveals that one out of every three persons gives a positive reaction. Investigators who have followed this program over a long period of time find that the positive reactors are far more likely to develop the disease in later life than are the negative reactors. Therefore, one is not justified in ignoring or regarding too lightly a positive reaction, though there is an absence of clinical findings. All such cases should have the benefit of an x-ray examination. The x-ray gives the physician valuable information in the early cases of the reinfective active tuberculosis before it can be detected by

physical examination or laboratory methods. Many physicians have found 65 to 80 per cent of the persons having early tuberculosis, as detected by the x-ray, could not be discovered by ordinary physical examination. These persons with an active infection were symptom free or had only one symptom not in itself significant of pulmonary tuberculosis. Do not be frightened or alarmed about a positive test. It does not mean you have active tuberculosis. The x-ray can determine that. It should, however, put you on your guard to protect yourself against any active infection. This tuberculin x-ray plan is the most important procedure that medicine has today for finding early tuberculosis.

There are contributory factors that play an important role in the spread of tuberculosis. The depression has brought additional unsatisfactory conditions, which if not carefully guarded will cause an increase in the number of tuberculosis cases. Poor housing conditions with overcrowding, improper ventilation and heating and insufficient sunlight make excellent conditions for the disease. With such a favorable environment the organisms readily find undernourished, improperly clothed families, whose general resistance to infection has already been lowered. With such a fertile soil it will be easy to lose much ground that has been gained during the last few years in the fight against tuberculosis. Overwork, with its excessive fatigue, lack of sufficient rest and sleep, and the presence of chronic foci of infection are other factors that make people more susceptible to this disease. Persons who have fully recuperated from a tuberculous infection frequently become careless and do not abide by good hygienic measures, such as plenty of sleep, good wholesome food, sunshine and moderate work. The infected areas, which previously healed, break down, liberating tubercle bacilli and causing a recurrence of the illness. For this reason the physician speaks of a case which has fully recovered from the disease as far as he is able to ascertain as being "arrested," rather than "cured."

If tuberculosis is to be eradicated, the tuberculosis societies, health departments, social agencies and the medical profession must have the cooperation and support of every family. The success or failure of a control program ultimately depends on you.

Through such cooperation there is little likelihood that you will suffer from the disease which has claimed so many of our ancestors. If you should develop tuberculosis, it will be discovered in the early stage where our modern methods of medical and surgical treatment will give you eighty-five to ninety chances out of a hundred to recover. Your period of disability will have been markedly shortened, the economic loss comparatively small and your conscience clear, because none of your close friends or relatives will have contracted it from you.


Have physical examinations at regular intervals.
Consult your physician if you have a cold, cough, unexplained pains in the chest or fatigue that tends to "hang on." Do not consider these lightly or try to diagnose them yourself.
Ask your physician about the tuberculin test.
Eat regularly three meals a day. Include all the essentials of a well balanced diet.
Develop regular sleeping habits. Obtain eight hours of sleep each night.
See that you take sufficient exercise, fresh air and plenty of sunshine.
Have all chronic foci of infection removed.
See that your home is ventilated and properly heated.

A Diabetic's Disposition

NOW a new and perhaps indirect phase of diabetes is entering the field of study. It is the pattern of the emotional life of the diabetic. How, if at all, is the emotional life related to diabetes? What can be done to control conditions toward a better guidance and a better understanding of this side of the diabetic's life?

We are entering on the relatively unexplored. Some will disagree with what I am about to say. However, from observations I have had the opportunity to make and from the subjective study of my own case I shall state my theories regarding diabetes and the emotional life pattern.

It has been said that the diabetic walks "a tight rope of life." This is true. He must live a regulated and rigid life, adhering to his diet with conscientious realization of its necessity, obeying the rules of living that help insure his good health, never wavering from the path which the intelligent diabetic patient walks. Each one must learn to care for himself—providing he is old enough—and the amount to know is not small. Diabetic persons are often said to be possessors of scholastic abilities which are above the normal. This may be due to the fact that the diabetic must learn a quantity of material that the average person seldom comes in contact with; he becomes interested in learning more and more; as a result, his general curiosity is developed to a high degree, and he becomes skilled in the art of rapid and efficient learning and reasoning. He must train himself to such a narrow path in health routine and form so many habits, on which his very life depends, that he is conditioned to lines of thinking that run parallel to those whose learning and intelligence is above normal.

Besides this unusually definite mold of physical living is another set of experiences with which the diabetic must cope. They are the emotions which are more or less intensely developed in each and every one of us.

By IONE LEONARD

The pancreas is thought to be the gland at fault in diabetes mellitus. It is the secretion of the pancreas, insulin, which is strikingly absent from the body and must be given by hypodermic injection if the patient is to live comfortably and for long. The injection of insulin is necessary most frequently in the young and the more severe cases. We are here concerned with those young people, for they are now maturing and forming their life patterns. The thyroid gland, the pituitary, the adrenal—all the glands of internal secretion of the body are interlaced in function and their relation to the body as a whole. The circulatory system of the body connects them, and in its fluid is carried the hormones that each gland secretes. If one gland is either underproductive or overproductive, there is then an effect produced on the whole body and on the other glands as well. They must readjust to maintain the vitally important chemical balance of the body. The hypofunctioning, or diminished activity, of the pancreas would be accompanied by the readjustment of the various glands throughout the body in an effort to maintain correct and normal metabolism. Metabolic tests, when taken by diabetic patients, are seldom regular. Usually there is considerable variation from time to time. Thus, the conditions of the body as controlled by diet and insulin have a bearing on the metabolism of the body. This metabolic rate, which depends to such a great extent on the glands of internal secretion and which is noticeably abnormal in the case of the average diabetic, again establishes the close relationship between the glands of the body.

Psychology and physiology agree that emotion, on which is based much of the character of the human being, is closely connected with the functions of the endocrine glands. A deficiency of the thyroid leads to, among other things, a sluggish response to stimulus, lack of comprehension and slow emotional response in the patient. Hyperthyroidism produces varying degrees of "ner-

vousness" and excessive activity—the emotional responses are swift and intense as a rule. Whenever the pancreas is deficient the other glands are readjusting their functions; the result affects the emotional reactions of the individual, throwing them in one direction or the other. In which direction? There lies the question.

In the last several years I have become increasingly interested in diabetes and in myself as an example of it. At first I thought along the physical side only—scarcely realizing that man is not a bit of matter having only one dimension. Then, as I became more conscious of the complexity of humanity I wondered whether there were not a definite connection between the physical, the mental and the emotional life. I have always been considered somewhat above the average in intelligence. The reason for this may have been previously explained satisfactorily. But it was the "moods" and the "emotions" that interested me. I wanted to solve the problem of "getting along with myself."

Why was I so "blue" now, and then so happy? Seldom were my girl friends in such depths of "despair" or such heights of "ecstasy" as I seemed to experience. Was it that I merely failed to distinguish such currents in others, or were they peculiar to me? Apparently for no reason at all I would feel that every one was a friend today and a right gay one at that, and tomorrow perhaps I would know that I could not bear living one more moment!

During the time in which I was observing such things I found that I was also fluctuating in health. Regulation of diet and insulin in relation to exercise and exciting experiences (which increase the blood sugar appreciably as a rule) was for some time a disheartening process. Then health routine leveled off to a smooth plain, and the emotional upheavels I experienced consequently, as it seems, became fewer and fewer. I began to recall my high school and grade school days. For several years during that period I had no check-up—that biannual or triennial reexamination which is definitely advisable for the diabetic. I had taken my insulin religiously; but I had gradually passed from any semblance of a diet. I had not been allowed to eat tremendous quantities of starches or sugars; but the vegetables and meats had been unlimited in quantity—a fact to which may be attributed my present normal height and physical build.

By the time I was a senior in high school I was placed under the care of a physician, and after two weeks of rigid diet and insulin regulation I was showing marked improvement. As I left the hospital my doctor said to me, "And your disposition has also improved a hundred per cent, Ione. Let's keep it so."

To verify my own emotional experiences I draw on the experiences of others. I wish to cite a case of a young woman in her early twenties. She has had diabetes for a year and a half. Two years ago she became conscious of a general sluggishness of reaction. Because her position demanded maximum efficiency she consulted a physician. All symptoms pointed toward the diagnoses of hypothyroidism. Several months later diabetes developed.

This young woman had been a happy energetic person, making friends easily and living a relatively untroubled life. But as time went on and as she began to settle back into a new, regulated routine, disturbing characteristics entered into her life pattern. She often felt a hopelessness that had been entirely foreign to her previously. Occasions of depressed feelings and other times of extreme gaiety rose more and more frequently. Emotions occurred that she had never experienced before.

At present her outlook is optimistic. She is an intelligent young woman; the attitudes which she has toward her condition are following the correct path; her emotional stability has improved. Once again the glands of internal secretion have readjusted themselves in compensating for the loss of the hormone from the pancreas—and perhaps other malfunctioning too.

In the special-diet dining room in which I eat are several diabetic persons. I have asked them also various questions about this relationship of diabetes and the emotions. In each case the fluctuation of emotion—the low, the high—is again evident. Unaccountable as it seems, emotional upheavals will come that are at once distressing and depressing. And in each case the regulation of diet and insulin to procure correct metabolic balance decreases emotional instability in various degrees.

"The tight rope of life"—it is a "rope" of taut nervous tissue as well. The impulses that speed along the bundles of fibers dip and rise, the emotions leap and plunge. Rigid training of the body, rigid training of the mind—these are necessary to overcome the unstable results of the impulses. Diet and insulin regulation, which so obviously affect nervous reactions, need to be seriously practiced. But this eventually becomes a habit. It is the "regulation" of the emotional side of man that is the difficult, but the ultimate, solution. Herein lies the future work of those working with and working for the diabetic. A better guidance; a clearer understanding. And the diabetic shall find a lovely and meaningful life before him.

Black Box Studios

What Is Cancer?

By RICHARD L. SUTTON Jr.

TO DIAGNOSE something is to recognize it. There was a time when each of us, who so casually see, hear or smell the things around us and know unhesitatingly what they are, lacked familiarity with them in early childhood and asked, "What's that?" of everything under the sun. Repeated instruction finally conquered, and the conceptions were clear and permanent.

To recognize cancer presupposes familiarity with it. Sufficient familiarity to enable unfailing recognition can be possessed only by individuals who expose themselves to experience day after day for months and years. There are very real difficulties arising from the fact that the condition one is called on to recognize in many instances cannot be seen, but only felt. Sometimes it cannot be felt at all but can only be inferred from existing complaints.

Accurate recognition requires considerable medical experience and training. But the only

knowledge the average person needs to have is simply sufficient to arouse his suspicions and to set him into action for determining, with the aid of discerning consultation, whether the suspicions have foundation in fact or may be discarded with safety.

Such articles as this would be inadequate if they merely alarmed. They should serve to clarify what one ought to be alarmed about and to define to what extent one ought to be aroused. The fear of the unknown is the Bantu fear of the bogeyman; fear of the known and control of the emotions constitute potent motives for effectual action. People are often afraid of operations when what they ought to be afraid of, and are justified in being afraid of, and what a doctor would fear himself, is the horrible result of timorous failure to endure minor hardship for ultimate good.

All living things, human beings as well as tadpoles and dandelions, are composed of cells. A cell is a little thing, which is alive. In human beings, it takes 3,000 cells side by side to measure an inch. It takes 10 billion of them to weigh as much as a teaspoonful of water. These numbers refer to real things, not hypotheses. Physicists talk about atoms that are infinitely smaller, and no one has seen them; but cells you can see, and you can grow them in test tubes, and they become more cells by one dividing into two, and the two into four like compound interest; and numbers in the millions come from numbers in the hundreds in a matter of days, not years, when circumstances are favorable. The numbers are no more difficult for an American to conceive than are the numbers which express the annual deficit. One must make a dollar grow. There is no such difficulty with cells; they do it for themselves.

Every living thing has been at one time a single cell. Fertilized by conjunction with another cell, the unit divides into many, which proliferate in an orderly manner to make the tissues and organs of an embryo. This grows by the reproduction of its component cells and eventually becomes the adult creature, human or otherwise. Some groups of cells continue to grow, such as those which make hair and finger nails; this is going on continually and without any sensations or ado about it.

A cancer is an abnormal growth of cells.

Cellular growth is painless. One's hair grows without one's being aware of it. A cancer's growth, too, is painless, early.

Why cells grow normally is utterly unknown. Why they grow abnormally is likewise unknown. Many agents are known which instigate abnormal growth among cells previously growing normally. Tar smeared on a mouse's skin will instigate abnormal growths, as will excessive doses of x-ray or sunshine or arsenic. The nature of cancer is the nature of cells. Where there are cells, they may grow abnormally and make cancers instead of good tissues. Fruit flies, mice, horses, men have cancers; there is sound reason for believing that certain lumps on apples are cancers. You can no more catch a cancer from another person than you can literally catch his ears, which are growths of cells that are normal, of course.

The diagnosis of early cancer is the recognition of small collections of abnormal cells. Suppose a hair grew in instead of out; there would be a big lump in a short while, but it wouldn't hurt until it pressed on a nerve or interfered with its blood circulation and sloughed or got infected. But one could see it. On the skin, early cancers can always be seen, and there is no excuse for any person's ever dying of carcinoma of the skin. Yet 3,000 people do annually in the United States.

Cancer of other regions is not so easily recognized. It is easier in the breast than in the stomach. A lump in the breast is readily found, and every woman should keep herself aware of whether a lump is there. If something is there, only one course of action is compatible with self respecting sanity, as contrasted with fearful self delusion: Go to a competent expert, and have him find out what is going on and how consequential it is. It might be a harmless thing, but it might not. To take a chance is to chance dying an excessively wretched death from one's own neglect and choice, one's unwillingness to face reality. Diagnosis of lumps in the breast commonly necessitates removal of a piece for microscopic examination. If the woman shies at this simple procedure, she is showing her preference for having her skeleton and liver fill up with cancer, instead of getting rid of the whole thing when this is easily possible.

I saw in a clinic a man with a fast growing cancer of the ear. He was frankly told that getting rid of the cancer would notch his ear, as if something had nibbled at it; he was already 60 years old and not much to look at. To leave the cancer untreated would mean that in due time it would destroy the ear and the side of his head until it eroded an artery. Hearing this, he walked out in a huff, absolutely refusing to sacrifice the cosmetic appearance of the ear! This is a nation of tolerance, and men or women have a sacred right to believe what they will. But with deepest respect for this freedom, which we demand for our-

selves as well as for our fellow citizens, there are ideas which one cannot believe and still survive. One cannot believe that eating rat poison is harmless or that tetanus germs don't exist or that a lump in the breast can be safely neglected.

Where early cancer can be seen, felt or discerned by the educated intelligence, cure probably can be effected. Cure consists of eradicating, by whatever means, all the cancer cells. Speaking in analogy, to cure a finger nail—that is, to rid oneself permanently of the growth of a nail—one has to get it all away. The easiest method would be to amputate the end of the finger, though it could be done with smaller sacrifice. Patients commonly cannot be brought to see that any sacrifice of the moment is worth making. They see immediate unpleasantness, and can't be made to look beyond that. If they could, they would see so much worse unpleasantness that they would beg for the chance to rid themselves of a diseased chunk of their anatomy.

WHAT IS CANCER?

Essentially, it's simply a lump of cells—tiny bits of the same structure from which all your other tissues are built.

Normal body cells grow steadily, systematically, beneficially. You would not stop them if you could. But cancer cells grow at a furious rate, and decisive action must be taken to stop their progress.

"When early cancer can be seen, felt or discerned by the educated intelligence, cure probably can be effected," says Richard L. Sutton Jr., M.D. Read this article to find out how!

Cancer can develop anywhere. In those locations where it cannot be found early, the difficulties are almost insurmountable. In the stomach, a common site of cancer in men, the start is so insidious and the lump gives so little hint of its existence that many cases cannot be cured by the time they can be recognized. This does not mean that nothing can be done to allay the inevitable course, but we are immediately interested in cure here. In the lung, it may be possible in some cases to discern the existence of cancer in its early stages and to do something about it through the bronchoscope with some success. Bone cancers are rather difficult. They may start inside the bone in the marrow and give no evidence of their existence until it is too late. Cancers involving the blood cells, as, for instance, a malignant growth of lymphatic tissue with leukemia, are simply hopeless from the start, because they scatter so early.

But cancer of the cervix of the uterus can be seen and cured, although it may give no evidence of itself to the woman who has it. If she will go to a doctor for periodic physical examinations, early cancer can be found and remedied.

Early cancer is, in summary, primarily a lump. On a surface of the body, skin, mouth, air passages or elsewhere, the beginning lump is flat or warty and tends to scale; it is a collection of abnormal cells. Inside the tissues, as in the breast, the muscles or subcutaneous tissue, the lump tends to be round. It does not hurt until it sloughs, becomes infected or presses on a nerve. In its earliest sloughing or scaling off, it may bleed, and bleeding of unknown cause is characteristic of cancer. This is of special importance to women past the menopause. If they bleed from the vagina, they are likely to think nothing of it, but they most certainly should! Unexplained blood in sputum, urine or other excretion needs investigation.

A small lump may give evidence of its existence by interfering with function. Cancer in the brain or beside the spinal cord does this, as does cancer in the stomach, bowel or ureter. Even in such a delicate structure as the brain, some tumors can be removed successfully so that the patient is cured.

The plea I make is this: Know enough to control aimless terror; suspect any lump, any bleeding, any alteration in function otherwise unexplained; go for competent advice at once, not after delaying for weeks—and thereby cutting your own throat. Accept the advice of the expert who knows whether an operation or x-ray or less drastic effort, or even nothing at all, is the best thing for you. Death is the result of secretiveness, false modesty, hesitation or neglect.

MODERN NURSERY RHYMES

By Margaretta Harmon

MARY'S LAMB

Mary had a little lamb,
With carrots on the side,
She liked it broiled or stewed or baked
But seldom ate it fried.

For Mary knows that good health goes
Along with stomachs cheerful;
While foods, you see, that don't agree
Will only make you tearful.

LITTLE BO-PEEP

Little Bo-Peep has lost her sleep,
And cannot tell what ails her;
Her pretty eyes have circles deep,
Her usual pep now fails her.

Little Bo-Peep must get her sleep—
Ten hours should suffice her;
Then she'll wake bright, and healthy keep,
And thus grow even nicer!

LITTLE BOY BLUE

Little Boy Blue, come blow your nose—
Do have a care where that sudden sneeze goes!
Tuck a clean hankie where it can be found,
So you won't look in vain when the next comes 'round.

***HARRIET MORGAN FYLER** shows how you may discriminate between food claims that are based on actual fact and those based on the manufacturer's fancy*

THE ACCEPTANCE SEAL

of the Council on Foods of the American Medical Association

THE circumlocution and verbal "blah" on this and that food product heard on the radio and read in magazines and newspapers bring to mind a popular song of a year or so ago, "The Music Goes Round and Round." Such advertising "music" would cause most of us to go round and round if there were no way to sift the true from the false. But fortunately for us and our families there are agencies organized for the express purpose of preventing or discouraging unwarranted, incorrect or false advertising claims in the promotion and merchandising of food products. One agency is known as the Council on Foods of the American Medical Association. All food products and their advertising accepted by the Council are entitled to bear its "seal of acceptance." This seal of acceptance is a useful guide in the selection of foods of quality, advertised with truthful claims.

The Council on Foods is composed of twelve persons eminent in those branches of knowledge directly concerned with food composition and nutrition, who are qualified to vouch for the merits of a food product and the advertising used in its promotion. To assist the Council members and facilitate their work a headquarters staff of technical assistants is maintained at the office of the American Medical Association. The members of the Council are not paid for their services; they contribute their time and information freely. There are no fees in connection with the consideration or acceptance of foods or food advertising.

Any food which is sold under a label may be considered with its promotional advertising for acceptance by the Council on Foods on presentation of market samples of the food, together with labels and copies of all advertising, such as booklets, leaflets, magazine and newspaper advertising, statements on billboard displays, radio copy and the following information:

1. Name of product, name of both manufacturer and distributors and information relative to the extent of area of sales and advertising.

2. A complete list of ingredients and quantities thereof entering into the product.

3. Detailed information on the culture, harvesting, collection, delivery, storage, freshness, selection, ripeness, quality, freedom from contamination, sanitation of the food itself. If the food is fabricated, specifications or definitions of all ingredients.

4. Precise and detailed description of all steps of manufacture from the initial stages of the raw materials to the final packing operation or shipment from the factory.

5. A report of a complete chemical analysis made by a reputable laboratory. This should include: data on moisture, ash or mineral matter, fat, protein, sugar, crude fiber and total carbohydrates (other than crude fiber) and sometimes other ingredients. This information provides a sound basis for judging the nutritional claims that can be made for the product. From the composition, the calory or full value may be calculated.

6. Claims for sterility must be supported by reports of microscopic and bacteriologic examination by a competent laboratory or bacteriologist.

7. Claims for vitamins must be confirmed either by references to authoritative studies in scientific literature or by direct biologic or chemical tests with market samples of the food product by a competent laboratory or analyst.

8. Conformance of the food product to terms and provisions of the federal Foods and Drugs Act or federal food regulations must be assured.

Because of the necessity of conserving its resources the Council has found it necessary to restrict its scope to those products which most require attention. Consideration is not given fresh fruits, vegetables, milk and a few classes of well known fabricated foods, but the Council from time to time reports on the nutritional claims made for any food product, regardless of whether or not individual brands are accepted.

The market sample of the food product, which it is desired to have considered, is noted, and its label and advertising are carefully reviewed by each member of the Council. If the Council members are assured that the food is wholesome and complies with requirements as to ingredients, composition or nutritional values prescribed by them or by the government under federal food statutes, and if the label and advertising are considered truthful and proper for the food, acceptance is granted for two years. At the time of acceptance, the manufacturer or distributor of the food product must agree to maintain the food and all advertising subsequent to acceptance in complete accord with the rules and regulations of the Council. Firms are permitted to use new claims in their advertising, provided such claims are first submitted to and accepted by the Council. At the end of each two years the product and its advertising are submitted to further review to determine whether acceptance can be extended.

Notice of acceptance of a food product is published in *The Journal* of the American Medical Association and in the forthcoming book "Accepted Foods." All food products accepted by the Council are entitled to display the "Seal of Acceptance" on the label and advertising. The seal of acceptance denotes that the food product and the nutritional claims made for it are acceptable to the Council on Foods. The seal is not a recommendation by the Council, neither is it their certificate or guarantee of purity. The seal does mean that the product on which it appears is produced by a manufacturer who has supplied all the information demanded by the Council. The seal is, in a sense, a token which means that the advertising is in harmony with the rules and decisions of the Council on Foods.

Not all food products submitted to the Council on Foods are acceptable. A food product is not eligible for list of accepted foods if the manufacturer or distributor is unwilling to disclose any facts regarding its preparation. The Council is of the opinion that the public deserves to know the ingredients of the food it purchases. There are no sound arguments justifying secrecy about the composition of foods.

A food product is not accepted if its identification label is not properly informative or if the trade name is misleading or deceptive by implication. An ideal food label has the common name of the food or a descriptive statement of the identity of its ingredients arranged in the order of their decreasing proportions by weight in the food and in easily legible type in proximity to the trade name on the label.

A food product is not accepted if the submitted advertising used in its promotion contains unwarranted nutritional or health claims, even though the composition, method of manufacture and labeling of a food product appear in other respects to conform to the requirements of the Council.

Examples of unwarranted nutritional claims are the following statements about a brand of sugar:

> Sugar is the greatest energy builder available to mankind . . . it supplies vim and vigor to the child and strength and energy to the grownup . . . the old belief that sugar affects the teeth has long since been disproven by scientists . . . sugar is among the foods least harmful to the teeth . . . overweight never has been and cannot be attributed to an increase of intake of sugar or any other single foodstuff . . . the place of sugar in the human diet depends on the taste and inclination of each man, woman and child.

Sugar supplies food energy: It does not build it. All foods except the simple mineral foods and water contain chemical energy available

for use by the healthy body to support its many activities and life processes and to maintain its temperature.

Sugar does not "energize the body" or "supply vim and vigor" to either children or adults. Vim, vigor, strength and activity depend on many factors, including freedom from disease, natural constitution, physical environment, training, habits and other factors.

The belief that sugar affects teeth has not been disproved by scientists. On the contrary, it is generally agreed by dentists and experts in nutrition that sugar taken in excessive quantities is among the foods most detrimental to the teeth, although there is no general agreement on how it operates.

Overweight in many persons has been and can well be attributed to an excessive intake of sugar.

The Council on Foods recognizes that sugar is a wholesome and valuable food when given its proper place in the balanced diet. It supplies calories and is classed by experts on dietetics as a desirable flavor food. However, the ingestion of excessive amounts of a chemically pure food such as sugar interferes with nutrition to the extent that it cuts down on other food substances, such as vitamins and minerals, which are associated with less highly refined products.

Equally objectionable are unwarrantable health claims predicated on personal charm and social preferment such as: "So many women lose their good looks after thirty. They fail to realize the importance of what they eat day after day . . ." with the implication that a food such as bran will cure the discomfort, headaches, poor appetite and listlessness of the person who has lost her good looks.

Health claims based on either flagrantly incorrect or misleading statements such as the following are not acceptable: "Modern science discovers grape juice burns up fat . . . Get thin the new way . . . simple grape sugars are quickly absorbed and used and hence not stored as fat . . . non-fattening grape sugar forces the body to burn up its fat . . ." These claims would falsely lead the reader to believe that a brand of grape juice has specific properties for reducing weight.

Grape juice is no more effective for reducing weight than are many other common foods. It does not "burn up fat," and its sugar plays the same part in fat metabolism as does any other available carbohydrate. The sugars of grape juice may be "stored as fat" under proper conditions, as are any sugars or other carbohydrates.

Neither are claims of recommendation, approval or use by physicians, health or medical authorities for specific foods acceptable, such as the following remark applied to a brand of fresh, compressed yeast by a "well-known physician": "Eat it regularly and yeast will help clear up adolescent pimples."

As far as the Council on Foods is aware, there is no adequate evidence in support of the claim that eating yeast will "help clear up adolescent pimples," and the Council does not recognize any therapeutic claims of this nature for any brand of yeast. Vague claims for foods such as "clinical experience has demonstrated its efficiency" are not informative to the public or physicians and because of misleading therapeutic implications are objectionable.

The Council on Foods, however, is not "the big, bad wolf" of food manufacturers and distributors. On the contrary, if a food and its advertising do not comply with the requirements of the Council, the manufacturer or distributor is notified and allowed a reasonable time to make recommended changes in the advertising or in the composition of the food. If the manufacturer is unwilling to make these changes, notice of nonacceptability is published in *The Journal* of the American Medical Association. When rejected foods or advertising comply with Council requirements they may become eligible for acceptance. Thus the Council hopes to institute a system of self control by which food industry will be governed within itself by established knowledge for the welfare of the public and of the entire food trade.

Advertising acceptable to the Council on Foods discusses nutritional values but avoids specific health claims; it recognizes that health depends on the diet as a whole and on many factors other than foods and not on any one food brand nor any one type of food.

Meritorious foods require no exaggerated, false, misleading claims. It is only the inferior food with alleged fictitious values that requires gross superlatives and exaggerations in claims.

The heyday of "health food" interests who put together a potpourri of bizarre products and foist it on the public as a panacea for whatever human imperfection and ailment the clever copy writer cares to mention is fast coming to an end. Consumers are being educated in health and nutrition. They are becoming increasingly more discriminating in the selection of food.

Accepted products deserve consideration by the consumer, because the seal of acceptance on the label means that the product is wholesome and that it is marketed with truthful claims.

DO GERMS DESTROY LIFE?

By THEODOR ROSEBURY

MICROBES are the killers and destroyers of life; yet the stuff that makes it possible for life to go on issues from the death and destruction in which they flourish. We think of them as our enemies. They get into our skin and make us itch; they burrow deeper and make us ache and sweat; they crowd our blood and kill us. They breed in filth and thrive on decay. By the standard of human prejudice they are things of disgust or horror. But they also bring forth the friendly smell of fertile soil, the warm aroma of the stable, the bouquet of old wine. More important, they cause decomposition and so make food for plants and in turn for animals. Germs, in fact, are parts of a vast scheme of living things, in which all the parts help the others and depend on them—and quarrel with them and kill them. We ourselves are parts of the same scheme, the most important parts, if you must, but neither less dependent nor less quarrelsome than the others.

Our human prejudice may lead us astray. In the elaborately balanced community of life on the earth few members fail to earn their rightful place. Certain streptococci—causes of scarlet fever and blood poisoning—are past masters of homicide. We condemn them unreservedly. Yet a judgment larger than ours might consider even the murderous microbes useful citizens of the living world. Killing us, they return our substance to the soil and serve the potato. Millions of streptococci die with their victim, martyred so that one of us may become grist for nature's mill and new life stem from our remains.

Other bacteria in the roots of peas and alfalfa, feeding on plant sugar, turn the nitrogen of the air into nitrates, food for the plants. Plants and microbes live by an arrangement of direct benefit to both; this is something we can approve of, unlike microbic homicide. But that larger judgment might not discriminate against the streptococci. When those germs set up housekeeping in a cut finger and run through a job of blood poisoning and die in droves with their unwilling host, they deal out death without malice, as other microbes manufacture cheese without pride, in keeping with an arrangement ultimately of benefit to all and larger than any of us.

If we could find a way to rid the world of all its microbes we should be wise not to use it. The better to picture our dependence on them, suppose all the world's microbes were destroyed suddenly—in the course of a night, say—in such a way that nothing else were directly altered. Suppose we were to wake up tomorrow in a germ-free world. What would life be like?

Things would begin to happen immediately. In the beginning they would be good. Later they would be bad, and they would get worse, until—but let us look at them in sequence.

The first effects would make us think a dream of paradise had come true. Larger numbers of the sick would begin *at once* definitely to get well. Even many of the hopelessly doomed would mend miraculously and recover quickly, incredibly. Infection would have vanished.

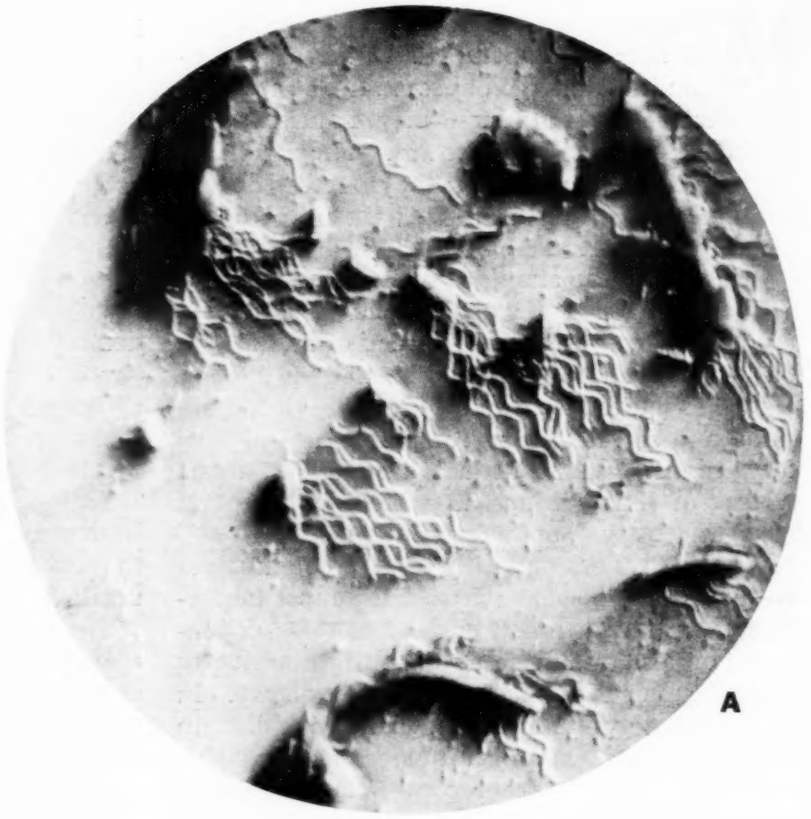
Infection is a destructive war waged by an invading army of microbes on the territory of our own bodies. Now the enemy would be exterminated, and the siege would instantly be raised. The sick would pass from prostration directly into convalescence and go on serenely to uncomplicated recovery. Coughs would disappear, fevers would subside, sores would heal, aches would vanish—think of it! A child with diphtheria, choked by virulent bacilli, racked with fever, weakened in every limb by the toxin in his blood, grows calm and strong and breathes and takes food with blissful surcease from pain. An old man losing a long fight against tuberculosis—hollow cheeked, pallid, coughing up his substance with every breath—puts the heavy load off his weary chest and begins to rebuild his wasted body. All over the world these things would happen. Despair

would give way to hope, agony to tranquillity, war to peace.

The sick would get well and stay well, and none would take their places. Hospitals would soon empty most of their wards, and before long some of them would close their doors for lack of patients. And many who remained sick would nevertheless be benefited. Those injured in accidents would not see their wounds turned into villainous stews of gangrene; deep wounds would no longer lead to blood poisoning or lockjaw, even if left untended. Disinfectants could be thrown into the sea. The priestly ritual of surgical asepsis, although superfluous, would probably not be abandoned at once but, lingering, would arm itself against empty air with quixotic absurdity. There would still be serious disease, of course; but even cancer and diabetes would become less destructive. Their victims would not fall prey to infection; and extensive surgical operations, hitherto dangerous or impossible because of risk of infection, would save many persons otherwise beyond hope.

The healthy might find a new perfection of health. Each of us supports a private menagerie of petty parasites—our intestinal bacteria. Nobody has ever been without them, and nobody knows for certain what they do to us while we have power to keep them at bay. When our resistance is at a very low ebb they may break through the intestinal wall and begin the work of destruction that is their specialty. Usually they wait until life has stopped. But even while we are healthy they are a resident army billeted in our house, eating our food, breaking our furniture, inflicting trifling damage in untold ways and places, taxing our energies in a continuous struggle. If they were eliminated, our reserves of strength, released, might lend us overflowing vitality, electrify us with superbly abundant health.

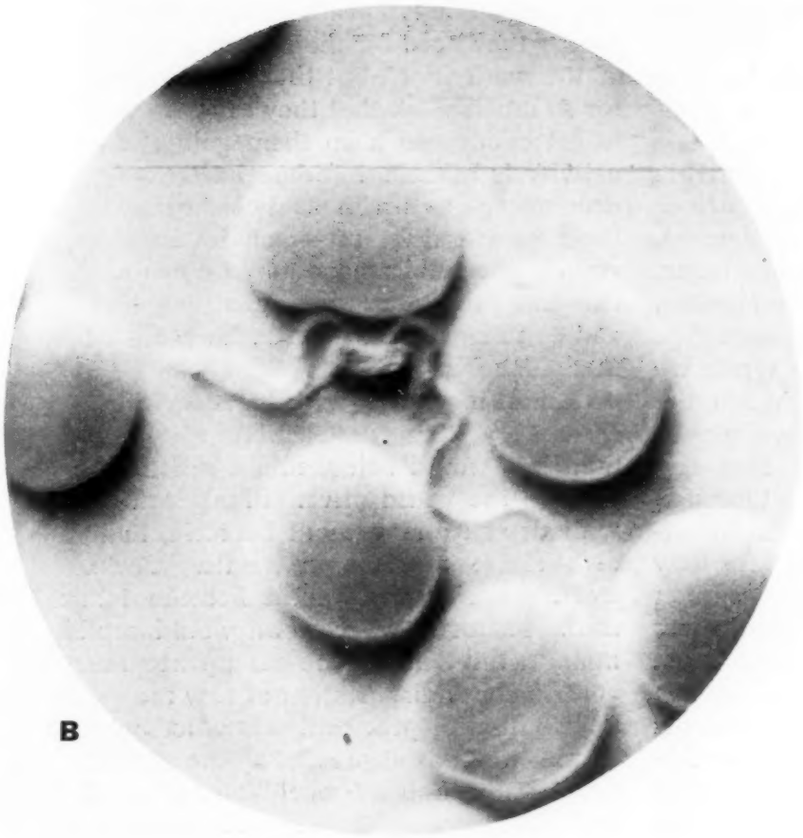
So much for the major gains. A few smaller ones would appear, but they would be doubtful blessings, tinged with foreboding. Food would not spoil. There would be no need to refrigerate it or to preserve it artificially. For a while the food supply of the world might increase sharply as losses due to spoilage were eliminated. Many of the world's worst smells would disappear. Our lives would seem cleaner, sweeter, more kindly. With our best health better and much of our sickness gone—with no more colds, no devastating epidemics, no venereal disease, no wretched infectious aftermaths of childbirth; with fresher food, less dirt, more fragrant air—we might think the millennium had arrived. We would be wrong. The ominous clouds of retribution would even then be gathering.



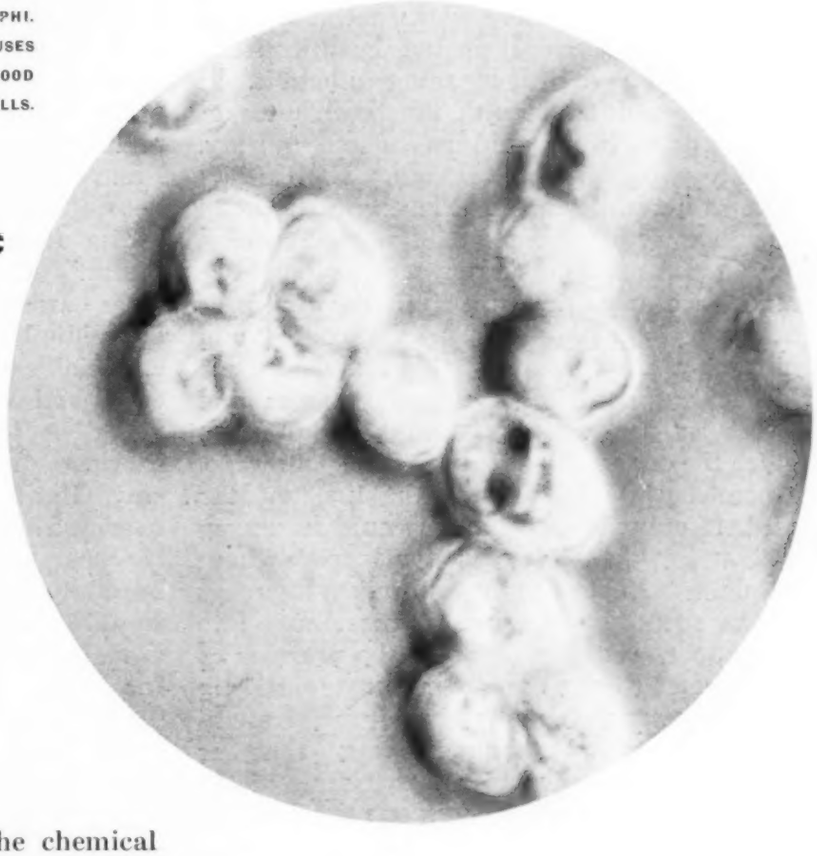
A

The storm would come on gradually, stealthily but relentlessly. Probably it would break around our ears before all the possible benefits of freedom from infection could be realized. At the start there would be only minor disturbances. Milk would not sour, cheese would not ripen. Yeasts, destroyed with other microbes, would not be at hand for making bread, and liquor could not be made. But these are trifles. We might be bewildered by them, but we could adjust ourselves to them. So far we would have purchased freedom from contagion cheaply. There would be a larger price to pay, and the bills would soon be rendered.

Without microbes, decomposition of the dead and of the products of the living would stop,



TYPHOID IS THE DISEASE CAUSED BY THE GERMS IN THE FIRST OF THESE UNUSUAL PHOTOGRAPHS, A. THEY ARE KNOWN PROFESSIONALLY AS EBERTHELLA TYPHI. B SHOWS TRYPANOSOMA RHODESIENSE, WHICH CAUSES A FORM OF SLEEPING SICKNESS, AMONG NORMAL BLOOD CELLS. C SHOWS A GROUP OF BREWERS' YEAST CELLS.



and a link in the continuous chain of life on the earth would be broken. Unless artificial means could be found to join the ends, we and all other living things would follow the microbes, swept by starvation into limbo.

The substance of the living world is used again and again. There is no real waste, no unused reserve. Plants, animals, microbes—all cooperate to maintain their endless succession. Each does its share in its own way. Green plants are the chemical base of supply. Their food is the carbon dioxide of the air and the water and nitrates and other minerals of the soil. The sun's rays give them energy. With the sun's help they build, out of their simple food, all the complex materials of life: the carbohydrates, the proteins, the fats, the vitamins. These products of plants are the food of animals, which cannot build, as plants do, from the ground up. Animals must have ready-made living tissue to construct and repair their own bodies, and they depend on plants to supply it. So animals eat plants, or else they eat other animals that have eaten plants.

Like all animals we are built entirely of materials which plants originally made and which we *borrowed* from them. Ultimately we must give them back; that is *our* share in the general plan. New plants will use them and the cycle will be repeated, again and again. But plants cannot digest the

complex substance of animal matter. Their specialty is building, not wrecking. Microbes undertake the wrecking, the digestion, in their place. Microbes, in other words, make it possible for us to repay our debt to the plants.

Different specialized groups of germs divide the work. Some of them kill us. This is *their* share; they hasten the day of our repayment. Lacking sympathy with this part of the scheme, we resent their impertinence. Nevertheless, they kill us. Then other microbes get busy. We carry them with us, and they wait. While we live we can hold them in check. When the barricades of our resistance are battered down, they surge over them, and nothing they can break is spared. Some of them do a thorough job; from the elaborately fashioned and magnificently joined furniture of our tissues they make the sawdust that is plant food—carbon dioxide, water, nitrates. Other germs are less enterprising; the microbes of the soil must finish the work they start, and there is much division of labor and some wrangling of cross purposes. But all in all the microbes, a numberless army of expert butchers and cooks, contrive from the raw material of our substance to lay a delicate repast at the feet of the plants. And they do the same, of course, with other animals and with dead plants and with the products of both. Theirs is the dirty work that goes on in damp, dark places. It is not beautiful, but beauty would have little meaning without it.

If decomposition ceased, the mechanism of the world of life would run down quickly, probably within a single season. The fertility of the soil would vanish. Plant growth would come to an end; seeds would not germinate; farm animals would face starvation, and we would face it with them. There would be reserves of food available for us, of course; and while we were consuming them, and as their approaching depletion enforced shorter and shorter rations, attempts would be made to restore the continuity of life by artificial means.

Chemistry would become the hope of the world, if only its possibilities could be recognized and its potentialities developed without fatal delay. Most of the useful things microbes do, the splitting of complex substances into simple ones, even the fixing of the nitrogen of the air, can be done now by man made, strictly chemical means. Usually the chemical methods are slower and smaller in scale. Whether they could be adapted to the vast scale of the whole world and used to replace microbes and keep the world alive, no one can say. Germs now cover the earth; they are found just where we need them. They are largely self supporting and exceedingly productive. They get the energy they need for their work as a by-product of the work itself, but they get so little energy for so much work that they must be very active to get enough to keep them going. And their activity is amazing! Some bacteria ferment—decompose—as much as twice or three times their own weight of sugar in an hour. No strictly chemical means now known can duplicate this prodigious activity, although the same end can be gained by other, far more laborious methods.

Human ingenuity, were it faced with the dire emergency that destruction of the world's microbes would bring, might possibly manage to keep the world alive. Plants can be grown without soil and without bacteria, in solutions of suitable nutrient materials. Perhaps the world's agriculture would become industrialized. Factories where food would actually be manufactured might be set up at places convenient for transportation of raw materials and distribution of products. Our food would then be made, not as at present by the age-old chemistry of the natural world in its broad farms and pastures, but in superlaboratories where the chemistry of man would attempt to supplant the barren soil. The receiving departments of these laboratory-factories would replace our present undertakers; burying bodies in the soil would have to be abandoned as useless and prohibitively wasteful. All dead bodies and every other kind of dead plant and animal matter would be delivered to the factory doors. From these raw materials, chemical methods of decomposition would make food for plants.

The factory proper would be a chemical "farm." Crops would be grown in tanks or trays, arranged vertically in tiers instead of horizontally as the soil demands and irradiated artificially to save space and insure continuous crops and a controlled yield. Part of the crop would be fed to live stock, which would still fabricate our milk, meat and eggs in the usual way. But the animals would have to be housed nearby and husbanded with rigorous economy. No waste could be permitted, since that which normally finds its way back into service by itself would have to be returned by human intervention. Manure, always useful as a source of food for plants, might become more valuable than gold.

The manufacture of food would be the world's most essential industry, and wherever the need arose, other industries would have to be sacrificed to it. The munitions industry, as one example, would doubtlessly expire; some of its basic raw materials—cotton, *(Continued on page 349)*

AFTER 40—

By MIRIAM TOWNSEND SWEENY

"LIFE," according to an optimistic contemporary, "begins at 40." People who have survived the vicissitudes of youth, who have carved out a career for themselves, who have borne children, who have discovered what they want and what they do not want should surely be able to enjoy the fruits of their experiences. But one thing is certain: The life that "begins" at 40 begins with a body 40 years old.

We have tried to show that good health should be an unconscious possession, consciously controlled. Fanatics and faddists are unhealthy individuals. But a sane appraisal of physical assets and liabilities is not unhealthy. The apprehensive, like the poor, are always with us. But the optimism of an adequate person is borne of vigor and flexibility—vigor with which to face change, flexibility with which to adjust happily. Age is that ossified condition of mind and matter that cannot adjust to change. Health routs age and repudiates ossification.

How many people today can say that they are fit and enthusiastic to carry on at 40, at 50, 60 or 70, with the same *joie de vivre* as at 21? That there are people able to do this is reassuring. They are the most convincing evidence that sane inventory at intervals along the way is wiser than that questionable state of bliss which is ignorance. To lock the stable door before the horse is stolen indicates an orderly mind. This might spell apprehension to some, but to others it spells perspicacity.

A structural check-up, which could be part of an examination by a physician, considers alinement of structure, muscles which largely control the movement and relation of parts of the structure to each other and the whole, height, weight, age, type, habits of life, occupational positions and usual activities.

Why is a structural check-up, though often omitted, so important? Because the driving power and efficiency of any machine, be it human or otherwise, depends on its alinement and hence on its power to operate without friction or tension and with the least expenditure of energy output for the work accomplished.

During the past years you have used your human machine according to your desires. But at 40 there comes an expectancy that is born of this period of life. "I am 40," you say to yourself, "therefore, how can I hope to carry on with the same vigor, the same enthusiasm and efficiency as before? I had youth; now, I have a different proposition to face."

This acceptance of the "inevitable" is the attitude of mind that we wish to replace with optimism born of correct knowledge. No person need fear the forties, the fifties, the sixties or even the seventies if he will adapt and adjust to warning signals, check up on their portent and act accordingly.

In various parts of the country, especially in large cities, there is an economic situation which prohibits many self respecting people from seeking the opinion of experts. Fear of too great a cost is a very real hindrance to the remedy of many structural defects.

If expense makes for hesitation in the matter of consulting your physician, remember there are none kindlier nor more unselfish with their time in serving others, and a perfectly frank talk will be met with cooperative suggestions.

To go back, then, there is no excuse for inadequacy creeping up unexpectedly. To fear the truth, or to be unwilling to face the findings, is unintelligent. Moreover, science nowdays, is striding ahead. New methods of relief and cure are being discovered all the time. As knowledge increases, fear and uncertainty disappear. If, therefore, you face reality and do something constructive about it when necessary, disorders, structural or otherwise, can probably be corrected in their beginnings. Do not neglect small irregularities. On the other hand, do not become obsessed by them, for that is equally unwise. A middle line is the best to follow. "It is not life, but the courage we bring to it, that counts," says Hugh Walpole. Apply this as you like, but do apply it.

During the forties certain structural changes often appear which, if disregarded, are likely to become well established at 50. Heads, necks and shoulders, erect at 35, begin to droop; chests tend to become depressed; stomachs protrude; backs round over above or cave in below; feet protest under the strain of increased weight and wrong use; fat pads appear in definite areas; a "dowager's hump" or a "spare tire" is registered. As a result of these changes, circulation, digestion and elimination tend to become troublesome, sluggish and precarious; muscles become flabby from lack of use and refuse to do their work of holding the structure together properly. It is truly a vicious circle, interrelating and directly affecting the vital organs housed within the skeletal framework. Added to this there is often an unconscious or conscious desire to ride rather than walk, to save rather than spend energy, a tendency toward frayed nerves, petty tempers and finally, perhaps, a feeling of inferiority.

What is the answer? What can you do about these warning signals? Aside from the "daily dozen" already mentioned, adjust yourself where you have deviated from the plumb-line of efficiency; use your body properly as a whole, not just in part; for nonuse makes for deterioration, wrong use for maladjustment and overuse for tension, strain and fatigue.

Important as activity is to the preservation of bodily fitness, there are times and conditions when relaxation should be substituted for activity until tenseness is gone, fatigue eliminated. Relaxation is a vague term, hard to understand, hard to describe and a state so often hard to achieve. Try this simple experiment in the middle of a busy day if possible, or if not, before the evening meal. Lie flat on a bed, couch or floor. Realizing how tired you are, let the surface on which you are lying slowly "lift" you. Letting go is hard, but such a procedure is of enormous help in the attainment of relaxation and refreshment.

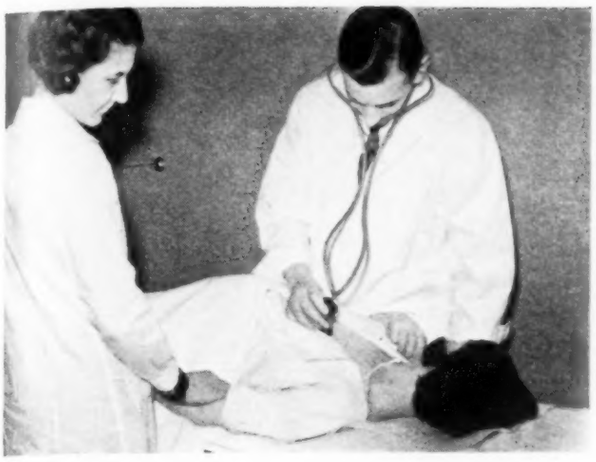
One of the physical adjustments which every woman over 40 must face occurs at the menopause, which is the natural cessation of menstruation. Like adolescence, this is a period of physical and emotional disturbance and is therefore dreaded. But a sane mental approach, plus adequate physical care, will do much to rob the menopause of its terrors.

Mind and body are so closely related that what tends to upset the one tends also to upset the other. This is particularly true during the menopause. Nervous irritability and tension are accompanied by allied physical insufficiencies, which are expressed by fatigue and abnormalities of cyclic depression and elation. Disturbance in blood pressure is often an aggravating factor.

Since tension is closely associated with fatigue and emotional extremes and therefore affects vital capacity, tension should as far as possible be relieved. One way to do this is by preserving good bodily and functional health. A program of prescribed physical activity is a definite help. Such a program should include your usual outdoor sports and an individual "daily dozen" adapted to muscular condition, energy and blood pressure.

During the menopause a woman is apt, because of systemic chemical change, to put on weight. Fat pads gather under the arms, over the hips and around thighs, arms and neck. Definitely prescribed exercises help to counteract this tendency. Overexertion at this time, when normal blood pressure is disturbed, should be avoided. Exercise should relax and still hold the interest of the individual. Many exercises, which are interesting when given vigorously, may be adapted in a program designed to meet the needs of the overly tense woman by being set to slow rhythm, with or without music. However, before embarking on such a program, your physician should be consulted, and the exercises should be supervised by a carefully trained person.

Relaxation and bodily control will go far toward the development of a healthy, normal attitude, which is of the utmost importance in attaining an uneventful, happy issue out of this all too often devastating and debilitating experience.



LEADERSHIP

in Public Health Work: II

By K. E. MILLER

PUBLIC HEALTH executives are constantly being besought by persons who want jobs. In most instances either they are unfitted for the job sought, or there is no vacancy. It is no small art to be able to deal with these people so as to make it clear to them that they are not going to be able to realize their desire for a job, yet at the same time to maintain their good will. The common subterfuge is to take refuge in evasion, leaving the individual to look forward to the possibility that somehow his hopes may be realized. When finally disillusionment comes to the unfortunate soul, respect for and confidence in the perpetrator of the deception vanishes.

Tact is probably more frequently stressed in practical public health administration than any other word. Tactlessness may be ordinarily traced to thoughtlessness. Tact is a gentle persuader and a skilful advocate. It smooths the rough bearings of human contact. It consists of not seeing or saying too much or too little. It is the synchronization of the right speech and action at the right time. It avoids prying and has no vulgar curiosity.

Courtesy will often contribute more to one's popularity than sheer ability. The lack of courtesy may be of two types: discourtesy and uncourtesy. The former is represented by rudeness, crabbiness or uncouthness, any of which will be violently resented by the public. Uncourtesy, on the other hand, is commonly unnoticed. What is meant here is the failure to do and say things which indicate thoughtfulness and human interest. A good politician, for illustration, makes a studied effort to learn the names of his constituents and when he meets them to call them by name. He always inquires about the health of the family and about other items that might strike a responsive note in his hearers. In the health field this may be appropriately illustrated by a letter of congratulation on the birth of a baby. In the same category is a kindly and commendatory word whenever a suitable occasion arises. It is the failure to take advantage of such opportunities which constitutes uncourtesy.

Dignity is not a pose. The person who has to make an effort to be dignified has not real dignity. In contrast to the assumed austere and commanding mien, dignity is a calm and serene state of mind which is the product of a competent preparedness to meet the problems of life and of confidence in the value of properly directed effort. Paradoxical as it may seem, a sense of humor by which one discerns relative values is no small factor in true dignity.

Dignity in some of its commoner aspects is closely related to courtesy. It should never mean unapproachability. Affability is wholly consistent with dignity, but the proper use of familiarity requires great discretion. It should never be used between official superiors and subordinates. Dr. Smith or Mr. Jones should never be addressed as Doc or Jones. The use of first names should be restricted to immediate friends and then only when one is sure that it is preferred.

Pride is a valuable asset in leadership. In its consideration, however, false pride, which is none other than overinflated egotism, must be eliminated. Pride in one's particular job imparts a thrill to service and creates an ambition to excel others in that field. Pride in the organization to which one belongs and in the public health profession as a whole contributes in a large way to better teamwork. Pride is infectious. It is the secret of that invaluable yet intangible entity we call *esprit de corps.* Pride is furthermore a great builder of courage. For the preservation of personal pride a person will face difficulties and hardships unflinchingly. He will refrain from whining and poor sportsmanship; he will avoid slovenly personal appearance.

Courage is the ability of controlling fear, rather than the absence of fear. Only idiots, imbeciles and the intoxicated are wholly without fear. It is, therefore, no great compliment to be called fearless. Courage is that quality which enables one to press on with steadfast

ONE METHOD OF BRINGING THE OBJECTIVES OF PUBLIC HEALTH TO FULFILMENT IN RURAL DISTRICTS IS BY USE OF A "HEALTHMOBILE," WHICH TRAVELS AROUND GIVING CARE AND INSTRUCTION.

determination toward the objective in spite of any inclination to waver or turn back. Pride, an indomitable will and fear of the humiliation of failure are powerful factors in the creation and maintenance of courage.

There are two common varieties of courage, namely, physical and moral. While physical courage is always to be admired, it figures much less frequently in the problems of public health leadership than does moral courage. The demand for this quality is almost constant. It takes courage to meet and dispose of political pressure without becoming involved in dangerous compromises. Courage of the highest order is required to enforce laws and regulations on every one alike, regardless of wealth or power. It took courage for Louis Pasteur to combat the age old theories of disease with his germ theory—both physical and moral courage—as he faced not only the scoff and ridicule of the French Academy but prison and possibly the guillotine.

There is, however, one common manifestation of moral courage which should be impressed on every one engaged in public health. To every normal human being the discharging of subordinate personnel is a most disagreeable task. It, therefore, is one which is dodged in every way possible. One of the most cowardly methods is to write the person a note. Of course for the purpose of records, a note is in order; but it is much better to transmit it in person. Any one having this duty to perform should face it courageously, man to man, delivering his message decisively though impassionately and kindly. Such a procedure commands respect even in those who are discharged, but it also has a far-reaching influence on the morale of the rest of the force who instinctively admire a person with "guts."

Another common call on moral courage is encountered in connection with references. Any one who pursues public health service for any considerable length of time will be called on to express an opinion about the suitability or fitness of certain individuals for positions in health service. Where the person can be recommended unreservedly this duty is easy. But rarely is the person found who does not have at least some peculiarity, and unfortunately too often the person inquired about is one whom we ourselves would not employ. The proper handling of borderline cases requires a rare combination of truthfulness, justice, tact and moral courage. The truth is always demanded, though bluntness is inexcusable. However, we must be absolutely certain that what we say is a known fact rather than rumor or mere impression, as serious injustice may result from repetition of rumor or impression when stated as fact. On the other hand we must bear in mind that the prospective employer has his rights, which must be safeguarded. The fact that he has asked your opinion implies confidence in your integrity and cooperation. He must be given a fair and honest appraisal of the prospective employee. Here is where moral courage frequently breaks down. There is an instinctive reluctance to put down on paper an unfavorable report when one knows this is to become a documentary record.

We prefer smugly to take refuge in the dictum that we should always see the *good* qualities in others and say nothing which is not compli-

mentary. This is but half truth, which is equivalent to deception. It is, moreover, moral cowardice, which has for its end result injustice to both the inquirer and the cause of public health and eventually distrust and contempt for the author of the injustice.

Imagination is a quality possessed in a large way by all those who open up new avenues of thought. Imagination is creative and purposeful thinking and must not be confused with aimless dreaming, which leads nowhere. A leader is one who is "out in front" in thought as well as action. Imagination is the antecedent of foresight, which enables one to keep just a few jumps ahead of his fellows.

Initiative implies foresight, mental alertness, courage, energy and resourcefulness. It is one of the essential qualities of leadership. The common soldier of the ancient Greeks was one who was not supposed to think but merely to do exactly what he was told. The Greek word for common soldier was *idiotes,* from which is readily derived a similar word in our own language. One of the saddest sights in the world is the health worker who can speculate freely and intelligently on great plans for accomplishment, but who somehow never comes to actual grips with the situation, like the salesman who puts up a brilliant sales talk, but who lacks that final punch necessary to get his customer signed on the dotted line. In approaching a task, one must not be dismayed by the bigness of it. It is marvelous how a start, be it ever so small, will break down resistance in a way never before deemed possible.

Physical fitness should require no particular stress among a group who have dedicated themselves to the cause of better health, except to stress the fact that teaching health is by example as well as precept. I have actually seen health workers with the highest degree of oral sepsis teaching mouth hygiene to children.

Professional fitness likewise may be passed over lightly as it is universally agreed in public health circles that a good professional background plus technical public health training are the fundamentals of professional fitness. However, you must not consider that your professional preparedness is complete on finishing the training courses. Professional fitness is never fully acquired but is more and more perfected by constant study. The Germans have a significant expression to indicate professional decline, "Er liest nicht mehr" (he does not study any longer).

THE LOGICAL STRATEGY IN A PUBLIC HEALTH PROGRAM CALLS FOR CONCENTRATION ON ONE ITEM AT A TIME: HERE BLOOD TESTS ARE BEING GIVEN FREE TO EACH PERSON DESIRING ONE.

U. S. Public Health Service

Attention to *personal appearance* will yield results in leadership out of all proportion to the trouble and expense involved. There are some who even espouse the ultra philosophy that persons are judged by the clothes they wear. Polonius in his advice to his son Laertes said, "Costly thy habit as thy purse can buy." Fortunately for the maintenance of good personal appearance, expense is not necessarily an important factor. Soap and water are inexpensive, as are likewise haircuts, razor blades and shoe shines. One does not need to be a fashion plate in order to present a neat and attractive personal appearance. The psychology of clothes and bodily neatness, *(Continued on page 350)*

ALL THE PEOPLE WHO WERE NOT TOO WEAK FROM FAMINE WERE OUT TO GREET THE ARRIVAL OF THE WHITE CHIEF.

WHITE ESKIMO CHIEF

By CLARK M. GARBER

ALMOST EVERY YEAR my duties as Superintendent of Eskimo Education and Medical Relief led me among a people who may truly be called the most primitive aborigines of North America. Lying between the lower reaches of the Yukon and Kuskokwim rivers there is a great expanse of delta country bordering the coast of Bering Sea. Within this flat, swampy tundra country there lives a group of Eskimos commonly known as Nunavagamutes. These people number approximately 2,000, and they live in as many as twenty-two separate colonies, the population of which ranges from 10 to 200. As I traveled among these primitive people, treating the sick and nourishing the starving, my observations and experiences were entered in my log book.

This tour of investigation and succor of the delta Eskimos began on March 15, 1931. Three days of dog-team travel brought me from my headquarters at Akiak to Quigillingok, the first Eskimo village in the delta country. The first leg of the trip was uneventful. But before I reached the village, word came to me that a terrible state of famine and starvation existed there.

When I arrived at the village of Kokuk, half a day's travel from Quigillingok, it was midday, which in the civilized world spells lunch time. Even in these strange surroundings my stomach never failed to proclaim the need for food at regular intervals. And if my hunger was to be fully satisfied, I would have to provide the food and prepare it. For this purpose I always carried a small grub box on my dog sled.

Kokuk is located on the west side of Kuskokwim Bay. Two small huts of recent construction housed half of the twenty-one inhabitants. The others lived in the characteristic barabara, or sod house, of the lower Kuskokwim River area. Into one of these sod dwellings I went to prepare my lunch. This dungeon of a home had to be entered through a 12 foot snow tunnel leading to a door barely large enough to permit my 190 pounds, bundled in furs, to squeeze through. My first step inside the door almost sent me sprawling onto the floor in the wet, slimy muck and filth. After skidding about and performing a series of fantastic acrobatics, I succeeded in gaining a stable footing, which also enabled me to restore my composure. Following me came one of the Eskimo boys with my grub box. The odors of rancid blubber and *titmuck*, rotten fish, not to mention the unsavory smell of the many human bodies crowded around me, more than saturated the air within the hovel. But in my close life with these people I had acquired a tolerance for

such things and had developed effective powers of inhibition, so the oppressiveness of my immediate surroundings did not dull the edge of my appetite in the least.

The floor of the barabara had no covering except some filthy grass mats that could hardly be recognized as such. These were placed along the walls where the inhabitants were accustomed to sit and sleep. In one corner of the 10 by 12 foot room sat a lad writhing in the excruciating pains of a severe case of snow blindness. From my own experience with this I had little hope of giving him any relief. This boy followed me to the village of Quigillingok, where I treated his eyes with first aid. But for snow blindness little can be done except to relieve the pain temporarily. Spend two or three weeks of confinement in a dark room, with a suitable diet, and a cure usually results.

After a pot of coffee had been brewed in water containing a generous quantity of reindeer hair and particles of tundra vegetation, lunch was served. As I stood in the center of the floor, coffee in hand, a stray dog ran across the roof and jarred loose a large lump of dirt from the sod roof which descended into my cup of coffee with a great splash, much to the amusement of my Eskimo friends.

The little Eskimo village of Kokuk marks the Kuskokwim margin of the delta country, where the Eskimos live under most deplorable conditions. Some of them attempt to keep a few dogs to haul their hunting and fishing equipment from camp to camp, but the largest of these dogs could readily walk under the belly of my leader and barely touch. This dwarfed condition of their dogs is due to the fact that they must forage for their own livelihood; and that, at its best, is the poorest of subsistence.

About 8 o'clock that evening the quickening of the dogs' pace told me that Quigillingok could not be many miles away. Far across the tundra snowscape a tiny light appeared. This would be the light in the window of the teacher's dwelling. Over the still frosty air came the chorus set up by the village dogs when they sensed my approach.

The town was in the throes of famine on account of the extremely severe winter, which was extending late into the spring months. The spring seal hunting season was thereby eliminated. The Eskimos were without food and would be unable to provide anything for their families to eat until the ducks and geese returned at break-up time. Rarely does one find Eskimos conserving foods against the coming of possible periods of famine and starvation. Their system is "feast or famine." When plenty of food is at hand they do not think of the future. Their method is to have "chicken today and feathers tomorrow." As a result of this famine a disease resembling scurvy prevailed in both Quigillingok and Anerak. Until my arrival at the village these people had nothing to eat but a meager supply of frozen tomcods which they had seined the previous fall. They told me that only the children were afflicted with the disease; but I have observed a number of cases in adults who were similarly seized with the malady. The more conspicuous symptoms

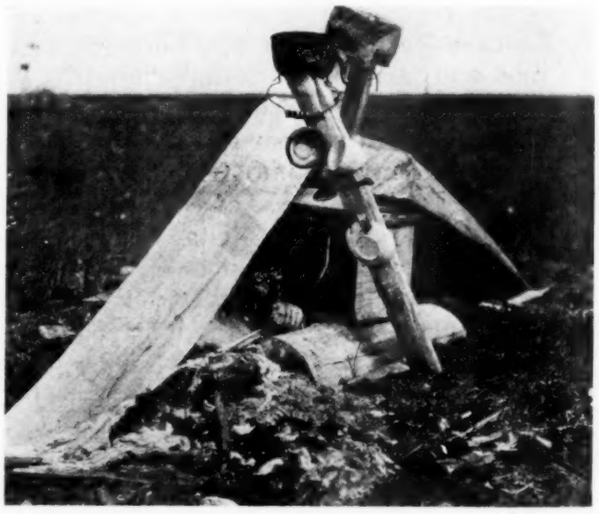
THE AUTHOR'S SLED AND DOG TEAM PAUSE IN THEIR JOURNEY AMONG THE YUKON AND KUSKOKWIM RIVER ESKIMOS.

A DESTITUTE ESKIMO WOMAN AND HER CHILDREN IN THE DELTA COUNTRY.

are swollen lips and tongue, sores on face and hands, and swollen and deep red gums, so that swallowing solid foods is practically impossible. There is a general weakening of the body, and the joints become so stiff that it is painful and almost impossible to move them. Although the disease is not always fatal, the majority of cases terminate in death. Quick action on the part of Martin, the Moravian missionary teacher, in procuring a quantity of fresh reindeer meat is the only thing that saved this village and its neighboring colony from complete annihilation by the famine and its attendant disease.

To locate the Eskimo settlements in the Yukon-Kuskokwim delta country geographically is difficult since there are no outstanding physiographic features with which they may be associated. Unless some Eskimo dog team has gone before and broken trail, I have found it necessary to set a compass course and navigate my dog team over the terrain as one would navigate a ship on the ocean. The preceding three-day blizzard had obliterated the trails completely. Fortunately the errors one might make in compass navigation of the tundra country by dog team are compensated by the keen noses of the dogs and the high odors emanating from an Eskimo village. Long before a settlement is visible the dogs sense its location, and through my olfactory sense I too have learned, when traveling up-wind toward an Eskimo colony, that a village lay ahead. Beginning at the village of Tagiaruk on the Kuskokwim River, the last vestiges of timber and shrubbery were left behind. From here to the mouth of the Yukon River, a distance of 300 miles, I would be confronted with the task of traveling over a flat expanse of snow, broken only by low hills at Chichinak, Nelson Island and Scammon Bay. Even the hills are sometimes covered so smoothly with snow as to blend with the sky and be almost invisible.

The village of Quigillingok has a total Eskimo population of 146. Its entire population lives in only twenty dwellings, eleven of which have no floor and are built entirely of sod. In truth they compare in both filth and odor with the white man's pig sty. It is doubtful whether the white man would keep his hogs in such grime and filth. In the nine homes that have floors, conditions are little better. The floor receives no special attention in the way of cleanliness, and the same insanitary and unhygienic conditions prevail with their cooking utensils and their bodies. Until we have provided these people with decent homes above ground it will be virtually useless to attempt instruction in the precepts of cleanliness. Under our present system of native education in Alaska the Eskimo



THE GRAVE OF AN ESKIMO IS COMPLETE WITH ALL THE DEAD PERSON'S MOVABLE PROPERTY.

may acquire the desire and ambition to follow the white man's teaching, to simulate his habits of cleanliness; but he has not the means or materials with which to bring about the desired improvements. Consequently he stoically accepts his fate, and in reality he acquires a hatred for the white man's interference. We could well devote several years to bringing about a sanitary and hygienic living condition in an Eskimo colony before even the rudimentary classroom work is started. From my own experience and observations among the Eskimos, I have almost come to believe that it is a terrible and unforgivable mistake for the white man to thrust his civilization with all its attendant evils on them. Their mentality is normally low, regardless of their native shrewdness. And I am certain that

Eskimo children, who have a meager ability at learning the abstract are much happier when untouched by our educative efforts. As I sat there in that wretched hovel, observing the normal activities in a typical Eskimo home of the delta region, I questioned whether it might not have been better for them if they had never seen a white man. How quickly a primitive people succumb to the influence and powers of a superior race.

My next stop was the village of Anerak. There I hesitated only long enough to treat the sick and leave some food supplies for the starving. One wretched dwelling which I entered had been without any source of heat for many weeks. I could hardly believe that human beings could live there. The walls and ceiling were encrusted with frost to a depth of two or more inches. Only one small window of seal gut admitted light. No artificial light was available either in the form of blubber lamp or kerosene lamp. The dungeon-like place was practically in darkness, regardless of the beautiful sunlight outside. The floor was a veritable mud puddle, and even the meager bedding of old reindeer skins was wet from the dripping walls and ceiling. This untenable dwelling housed a family of six Eskimos: a grandmother, father and mother and three children. The patient, a 12 year old girl, complained of a sore back. She had frozen fast to her damp bedding of reindeer skins. The native medicine man had treated the girl after his own primitive fashion by pasting a portion of squirrel skin over the affected part, a proceeding which did not help the frozen and infected area but simply promoted the development of further infection.

At the village of Ohohtuk, I found three occupied dwellings of the *upiat*, partly underground, type. Here, too, food supplies were deplorably low. Fortunately I had anticipated this condition before leaving Quigillingok and had loaded my sled well with provisions from the trading post. The outstanding case in Ohohtuk requiring medical attention was that of an Eskimo mother with a small babe. Starvation rations made it impossible for these people to provide any food for their dogs. They were allowed to run loose and forage for their own subsistence. As a result the dogs are often found running in packs, and under conditions of extreme hunger they will not hesitate to attack a human being.

Pootoo's wife, returning from her neighbor's dwelling with her infant in her arms, was attacked by a pack of wild dogs, bent on making a meal of her baby. Before her screams could summon help, the dogs had severely lacerated her arms and legs and had almost torn her garments to shreds as she fought them to save her child. This attack took place only a few minutes before I arrived at the village, so I was promptly pressed into service as the attending physician. After taking many stitches in the mother's wounds and applying many surgical dressings, I left her much comforted and deeply grateful for my help. In fact the deep thankful light in her eyes amply repaid me for the comparatively small service I had rendered.

Some who have had short contacts with the Eskimo people claim that they are unappreciative, that they have no sense of gratitude. This is a false impression, probably based on the fact that they are undemonstrative. One must

THE ESKIMO'S STOREHOUSE IN WHICH HIS FOOD SUPPLIES, FURS, TOOLS, WEAPONS AND CEREMONIAL NECESSITIES ARE KEPT IS BUILT ABOVE GROUND FOR ADDED PROTECTION.

understand the Eskimo's psychology if one would sense his deep and everlasting gratitude and appreciativeness.

As the next day came to a close, my dog team came to a stop beside the *cosegy,* underground community house, in the village of Kipnuk. My arrival was not without welcome, for all the people who were not too weak from the famine were congregated there to greet me with their single, but much repeated, word of salutation, *chaumai, chaumai, chaumai.* The stars were shining with their characteristic brilliance on cloudless Arctic nights. The thermometer in my grub box stood at 45 below zero. Soon the Eskimo boys had carried all my equipment into the *cosegy* and stacked it in a corner to await my needs. After the long day's mush through the unbroken trail, I was naturally hungry and wasted no time in preparing a meal of salmon strips, coffee and hardtack from my grub box. As I hungrily devoured my food, I felt a great deal of shame at the manner in which these poor hungry people, especially the children, stood about and watched me eat. Because of their extreme state of hunger, I would not have blamed them if they had mobbed me and taken all my food. And had they not realized that I actually came to help them, this doubtless would have happened. As the evening was yet young when I finished my meal, I decided to make a tour of the village to give such immediate medical aid as was necessary and map my procedure for the following day.

Atanakhok, the chief of the village, asked me to accompany him first to the home of a sick widow, a woman whose husband had died of starvation and left her with three small children. I found this woman living in a small *upiat,* the filthiest I had ever visited. She lay on a few old skins, the identity of which I could not determine because of their filth, with her little ones cuddled as close as they could get to her for warmth. My first glance told me that they had little chance for recovery. They had deeply suffered through the long period of starvation. The only food to be found about the place was a pair of ancient frozen tomcods. These the poor mother was saving for her children. A 6 month old baby lay at her breast, weakly trying to suck from his mother the life-giving milk it needed so badly. But the mother had had no food, and her breasts were no longer able to produce nourishment for the child. Up to this time she had managed to keep her baby alive by prechewing raw frozen fish and feeding it to the child.

From my own food supplies I quickly procured a can of condensed milk, some smoked salmon and bread. With these foods and careful treatment over a period of five days, I had the mother and older child on the road to recovery; but unfortunately I could not save the two younger children. Even now, several years later, I often think of this Eskimo mother and marvel at the great courage and will power she manifested in the supreme battle she maintained for the lives of her children and herself.

The village of Kipnuk is situated on the bank of the Kuguklik River about three miles from its mouth. A mile down the river is a neighboring village called Chilitmute. These two villages have a combined population of 250 Eskimos. Their food supply is seasonal. In the summer they fish for salmon; but never do they dry this wonderful fish against the lean days of the winter. The business of fishing is controlled by the witch-doctor, who wields an enormous power over the lives of his people. It is he who dictates tabus, which they fear to violate. Only enough salmon are taken to feed them from day to day. According to the witch-doctor, if they caught more or took enough extra salmon to dry them for winter use, the fish would not return the following summer. Since we are determined to force our educational processes on these people, it becomes our function to educate them away from such foolish beliefs and tabus. But to break down and destroy the witch-doctor's power over his people is not an easy task. He fully realizes that the coming of the white man's civilization means the loss of his power. He therefore becomes a powerful obstructionist to every educational effort. And even though we may eventually overcome the witch-doctor's influence and teach the Eskimo to conserve foods, his deplorable living conditions cannot be improved without outside aid in the way of materials and funds.

One grave mistake that has often been made by missionaries and others is to supplant the Eskimo's natural food with the white man's diet. To do so simply spells his doom. If we would keep the Eskimos healthy and free from disease they must be allowed to live as Eskimos so far as their food is concerned. Invariably, abandonment of their own type of diet for the white man's starches, sweets and sugars is accompanied by the development of tuberculosis and dental decay. They will always be Eskimos. They cannot live for a great time on the white man's food or in the white man's climate. Hence if we would not have them become an extinct race, we must take measures to protect their natural food supply. How the Eskimos can exist in the midst of extreme *(Continued on page 363)*

LOOKING FORWARD TO MAY

"Radio 'fever'" is not what a broadcasting enthusiast has when he gets all excited over his "ham" station. It is a method of treating some hitherto baffling diseases by placing the person within the sphere of action of high powered radio electric waves. These elevate his temperature to such a point that certain germs can no longer endure. Some germs, such as those of gonorrhea, have become so completely used to living in the human body at its normal temperature that an increase of temperature maintained for some hours will either directly destroy them or stimulate the body to stop their further growth.

Numerous other important uses for short wave diathermy, as it is called, have been found. Richard Kovacs, M.D., the author of this article, "Radio in Medicine," is a clinical professor of physical therapy at the New York Polyclinic Medical School and Hospital. Because short wave diathermy is one of the newer fields of medical research, it is little understood by the public. Read Dr. Kovacs' enlightening interpretation of these discoveries.

Are you going to have a baby? If so, here are the answers to all your questions. You have probably wondered how doctors calculate when the baby is to arrive; whether "morning sickness" is natural; whether it is possible to predict the sex of your heir; how the baby grows before he is born; how much you should gain in weight; how you may recognize the onset of labor—all this information and more are yours for the reading of "What May the Expectant Mother Expect?" by William F. Mengert, M.D., of the College of Medicine, State University of Iowa.

This is an article that is clear, personal and complete in detail of what happens to the mother-to-be. It should be placed on the "must" reading list of every woman who is pregnant for the first time.

What is the school's position in regard to a child's health? Elizabeth Cotton, who is associate professor of physical education, Sam Houston State Teachers College, outlines the responsibility of the school in protecting children who are well and making every effort to improve the health of those not physically up to par. Her article is entitled "Protecting the Health of the Child" and should be seen by every parent and teacher.

An apparently trivial foot or leg injury, improper self treatment of a corn or the presence of "athlete's foot" may have extremely unfortunate results for the person who has diabetes. Moreover, any attempt to remove a so-called ingrown toenail by digging in the corners of the big toe with unsterile scissors have caused untold numbers of legs to be lost, the author of this article says. If you feel a pain in the toe, don't assume that you have an ingrown toenail; it is probably nothing which you can correct yourself. Infection in the diabetic too often leads to gangrene, and this in turn leads to a loss that could have been avoided!

Saul S. Samuels, M.D., of Bellevue Hospital, New York City, warns of four easy ways of causing a simple infection, from which diabetic gangrene may start. His article is entitled "Diabetic Gangrene" and will appear next month in HYGEIA. This subject is overwhelmingly important to every person who has diabetes. Don't miss it!

Other important articles to be found in the May issue of HYGEIA are "The Fat of the Land," by Lemuel C. McGee, M.D.; an article on the Gray Ladies of Walter Reed General Hospital, Washington, D. C., by A. W. Knight; "Temper Tantrums" by William I. Fishbein, M.D.; "The Doctor Round the Corner" by Regina Woody, and "Parents, Incorporated" by Dorothy E. Bradbury and Eleanor Saltzman.

The Child's Own Health Record

***How does your child rate in health habits? Modern records help modern children to correct bad habits—and they learn because they like it, says* ROSE ZELIGS**

"I MUST SEE YOU, my dear," came from Mrs. Brown just as I was dismissing my class at the end of the day. "I don't understand about your health lessons. Janet has been a different child this year. Instead of pouting when I remind her not to bite her finger nails, she thanks me for it. And they're getting long enough for the manicure she made me promise her! I don't have to coax her to eat vegetables now. She asks for them. She made me get her a comb of her own, too. She claims that you said it was unsanitary to use even my comb. You know, I never heard of that before. Do you call all this hygiene lessons? Are those things really her lessons? When I went to school we had to learn the exact number of bones in the human body and things like that for our health lessons."

"What good did that do you?" I interrupted.

"Why, I don't understand you; that was my lesson, and I had to learn it."

"We teach health differently to our sixth graders," I explained. "Today we believe that everything we learn should do something to us, should make some change in our outlook, our habits, our attitudes. This is especially true in our health lessons. Each child is working daily to improve his mental and physical health. He selects one or two of his bad attitudes or health habits and tries to eliminate them or substitute a good habit for the poor one. The children are asked to keep actual daily records of their progress. This helps them become conscious of the conditions that cause them to practice the bad habits and makes them responsible for finding methods for self improvement. Theirs is the responsibility for correcting the weakness. However, they need cooperation from the home in this plan of learning to live most wisely."

"My goodness, I heard that schools are different today, but I didn't know that children were marked for eating breakfast and keeping their finger nails clean and using their own comb!" exclaimed Mrs. Brown in amazement.

"That is just exactly what we do, except that we do not stress marks; we stress self improvement," I said. "For the last six years I have asked my sixth grade classes to keep records of their progress in notebooks. Class discussions and an analysis of the notebooks show repeatedly that 12 year old children have definite problems to face. We might classify those problems into personal health habits, social health habits and attitudes, and eating habits and attitudes.

"Personal health habits and attitudes include cleanliness. Children of this age, especially boys, are often careless about their personal appearance. This is partly caused by the nature of their interests and activities. It is difficult to keep hands, face and clothes clean when one is playing marbles, football or baseball. Climbing trees and fences, roving in the woods and racing with the dog are hardly conducive to personal cleanliness. In fact, only 'sissies' are always clean. However, children must learn to clean up thoroughly after those activities. We can help them by simple reminders. Hang mirrors where they can catch a glance at themselves. Laugh with them at their own reflection, and have towels, brushes and washrooms handy. That method is much better than ending the joyful afternoon with, 'What have you done to yourself? You are certainly a sight to look at. Go wash yourself immediately!"

"Biting their finger nails is the most common and most difficult habit to break for these children. Inspection has shown that one out of every three 12 year old children bites his finger nails. This is true for both boys and girls. The children have recorded the conditions under which they find themselves biting their finger nails and the various methods they use in an effort to break themselves of this habit. The habit is practiced most often when they are attending an exciting moving picture or listening to special 'thrillers' on the radio. More recently, reports have come that finger nail biting occurs while playing 'Bingo.' The children also practice this habit when they are bored or have nothing to do, when something is wrong or during a test. We can see from their records that too much stimulation and strain make the children nervous and cause them to bite their nails. The children, especially the girls, are eager to rid themselves of this habit as they realize its effect on their appearance. The methods they have used with some success include wearing gloves, keeping hands in pockets and putting adhesive tape on their fingers. The best method we can follow is to improve the general health of the nervous child by creating a calmer environment for him. This will also help to avoid other bad health habits such as chewing pens and pencils, twisting and pulling hair and cracking knuckles.

"Getting to bed on time and its sequence, getting up on time, are problems made more difficult for our children because they have to leave behind them activities whose interests tempt them and whose echoes disturb them. In days gone by, when the entire family retired at the same time, the bedtime problem did not exist. Disturbances today are concretely described by one boy who writes:

> I shut my room door so I could not hear the radio but it did not help. I put my pillow over my ears but I could still hear it. I had another idea. I would not think about the radio being on. I did that and finally I fell asleep.

"To sixth grade children, keeping shoes polished is neither necessary nor possible. Yet they should be made conscious of the fact that it is being done. School and Scout inspection have stimulated some effort in that direction.

"Having a definite daily schedule has helped some children in solving such problems as promptness in starting homework, in practicing music lessons and in doing chores. These are but a few of the more prevalent personal health problems children have to face.

"Classified under emotional and social habits and attitudes are problems dealing with self control. They include talking too fast, too loud or too low. We can help the children overcome some of those habits by example. Imitation is one of the well known methods of learning. The habit of nagging for things, mentioned by the children, will be broken, if parents and teachers stick to what they say the first time. Other emotional problems include waking up in good humor and taking criticism in the right spirit. Some children are slow to adjust to a physical change such as from sleep to waking. They should be wakened a little earlier so that they may make the adjustment more leisurely, without being rushed. It is said that Lord Montaigne, famous French scholar of the sixteenth century, was awakened when a child by the playing of lovely music.

"Attitudes toward the home and family include habits of cleanliness, order, economy and consideration for others. It is hard for the boy to think of wiping his feet when he enters the house, to hang up his coat, keep his room neat, put away things that he uses, turn out lights and in general keep his surroundings in order. Some of the children have become conscious of these things and by making definite effort to improve have overcome some of their bad habits. They have learned the importance of consideration for others, such as promptness for meals, good table manners, not playing with silverware on the table and taking turns in deciding about radio programs to be turned on. Courtesy, helping others, running errands without argument and playing with sister and brother instead of teasing them are all impor-

tant lessons for them to learn. Certainly, perfection in all these home situations is difficult to attain even for many adults, but awareness of the problems and concentration on a few of them have led to improvement and growth in mental health.

"The third important group of health problems on which the children worked deals with their attitude toward foods. Such attitudes are often carried over to adult life. In many cases the children's food habits reflect those of the adults with whom they live. In homes where well balanced meals are served and food is taken as a matter of course, where it is served attractively and without pressure or emotional tension, children usually imitate their elders and eat what is served. The food problems show that some of the children eat too much, while others do not eat enough. Some of them gulp down their food, while others play with their food and eat very little. Many of them eat unbalanced meals, drink coffee and avoid all kinds of green vegetables. They are afraid to try new foods and therefore limit their diet to a few kinds of food. Some children wake up late and dash off to school without taking time for breakfast. These children eat between meals and are really never hungry enough to enjoy a good meal. In working on these problems, some of the children have greatly improved in their attitudes toward food and have found much satisfaction in noting their progress. They have thereby improved their health and relieved their parents of the unnecessary difficulties connected with eating. Parents can help children with this problem by creating a pleasant, happy and social mealtime."

"Do all those problems you give actually come from the children?" asked Mrs. Brown.

"I have discussed those mentioned most often. Would you like to see a few of the notebooks? Here is one belonging to an unusually bright boy who has the habit of stammering. He writes:

> Have found that I stammer only when I am overexcited or anxious. Will try to be more normal in my feelings. Haven't been going to any shows lately. Am going to bed at 8:30 almost every night. Have improved by doing all this.

"Here is a girl's notebook. She writes:

> My motto is, "I can and I will!" My bad attitude is that I can not take reproving. When anyone reproves me I sulk and pout. Very often I know that I'm wrong.
>
> *Wednesday:* My father reproved me for something and I sulked for just a moment.
>
> *Sunday:* My mother scolded me but I didn't scowl a bit.

"This girl happens to have a brother and sister with whom she quarrels very easily:

> *Friday:* My sister and I had an argument over a hair ribbon but in the end, to prevent a fight, we flipped a coin. I won!
>
> *Monday:* I slapped my brother for taking something I had wanted but then remembered myself and checked it.
>
> *Thursday:* Just a slight argument with my brother and although it could have been a big fight I controlled myself fairly well.

"I look at every child's notebook every week. At the end of the year I collect them. On the basis of the books I had gathered for the past six years and the lessons and discussions we had concerning some of the problems the children work on, I made out a health test for 12 year old children. I will give you a copy of it.

"It has been of special interest to me to note the methods the children use to improve. Most of them claim that keeping a notebook has helped them. It has given them the feeling that they are talking to the teacher and sharing their ideals and feelings with her. Some of the more common methods used by the children include keeping a daily chart, putting up written signs to remind them and asking parents to let them know when they are unconsciously practicing the bad habit. Some children claim that seeing others practice the bad habit acts as a reminder to them not to do it. Others tell themselves not to forget, tie a string on their fingers or ask to have their allowance cut when they are found practicing the bad habit.

"You see then that 12 year old children can be made aware of their own habits and attitudes and can be interested in working for personal growth and improvement. The problems these children face include personal health habits and attitudes, emotional and social attitudes and

eating habits. Some of the things that have become second nature to us are difficult for the child to attain. We must have patience with him and try to create conditions that will help him form permanent health habits.

"Of course, the method we use in our health lessons does not solve all the children's health problems, but it helps by making the boys and girls conscious of their weaknesses, by making the efforts to grow come from within themselves instead of from some outside authority. The method involves *doing,* motivated by definite concrete, personal problems. Keeping a record makes the children see their own progress more readily. It helps them see the way they are going and gives them courage and satisfaction. It makes them realize that other children have problems also; that there is no perfect little girl next door, and that every one must work for self improvement. It is a method in healthful living that has proved successful."

"Thank you so much," Mrs. Brown said. "Now I really understand what is meant by the statement that we learn to do by doing."

A Test in Health Habits and Attitudes

Here is a test showing health habits of 11 and 12 year old children.

Directions.—If you have the habit of doing the thing mentioned, write *Yes* in the column opposite the sentence describing it. If you practice the habit once in a while, write *Sometimes* in the column opposite the sentence. If you don't have that habit, write *No* in the column.

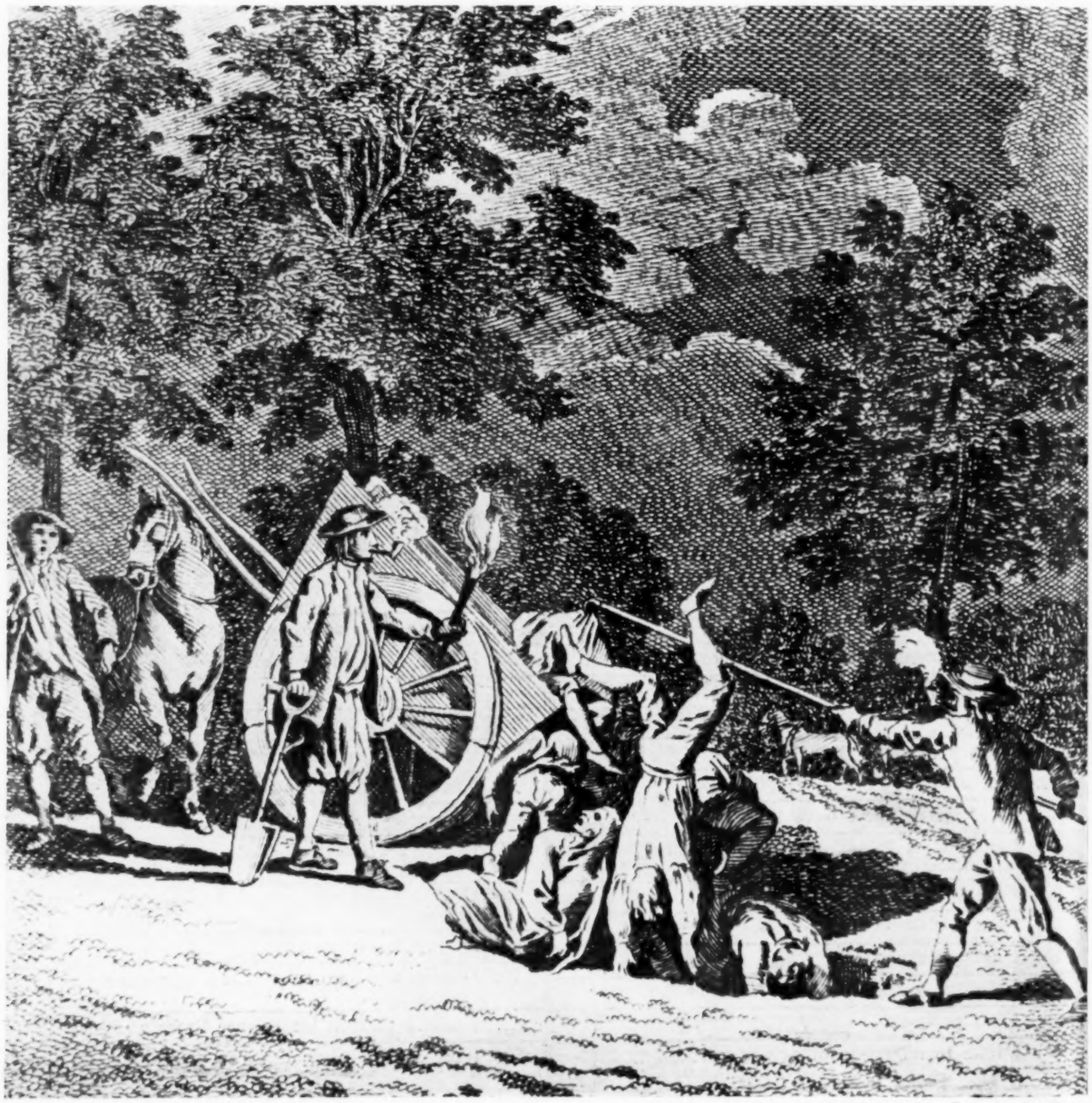
Scoring.—Give 2 points for all the answers that are like those on the score card. (See page 346.) Give 1 point for the answers marked *Sometimes.* The score is the sum of all the points. The average score is 88.

1. I always have good posture.		29. I read only in good light.	
2. I always hang up my wraps.		30. I pick my finger nails.	
3. I eat between meals.		31. I keep my desk in order.	
4. I keep my hands away from my face.		32. I spend too much money.	
5. I keep my hands away from my hair.		33. I wake up in good humor.	
6. I clean my teeth regularly twice a day.		34. I start my lessons promptly.	
7. I go to bed on time.		35. I talk too loud.	
8. I worry about things.	✓	36. I am prompt for meals.	
9. I nag for things.		37. I keep my room in order.	
10. I bite my finger nails.		38. I have the habit of day dreaming.	
11. I keep my finger nails clean.		39. I play in the fresh air regularly.	
12. I use my own comb at all times.		40. I wipe my feet when entering the house.	
13. I interrupt when others are speaking.		41. I obey my parents promptly.	
14. I eat too much candy.		42. I drink milk regularly.	
15. I come promptly when called.		43. I turn out unnecessary lights.	
16. I run errands without argument.		44. I have good table manners.	
17. I talk too fast.		45. I am courteous to all.	
18. I like to try new foods.		46. I get up on time.	
19. I chew on pens or pencils.		47. I eat different kinds of vegetables.	
20. I drink coffee.		48. I eat breakfast regularly.	
21. I put off things I have to do.		49. I keep my clothes neat and clean.	
22. I play with things on the table during mealtime.		50. I have the habit of cracking my knuckles.	
23. I eat too fast.		51. I cover my mouth when I cough or sneeze.	
24. I eat too slowly.		52. I enjoy my meals.	
25. I eat too much.		53. I wash my hands and face whenever necessary.	
26. I do my home work at a regular time.		54. I take a bath at least three times a week.	
27. I am prompt.		55. I play with other children.	
28. I take turns in deciding about radio programs.			

Mysterious Epidemics in History: II

***CLAUDE LILLINGSTON** depicts the terrors of the historic bubonic plague of London in the year 1665. Below is a contemporary concept of the mass system of burials necessitated at that time*

DANIEL DEFOE, the author of "Robinson Crusoe," originally published in 1719, is justly famous for another work, "A Journal of the Plague Year," which appeared in 1722. According to the corrected date of Defoe's birth, he must have been about 6 years old at the time of the plague. His account of it must, therefore, have depended mainly on hearsay and documentary evidence. But, as one of his



The Bettman Archive

annotators has remarked, it is probable that his parents remained in London during the plague, and that the child may have retained some vivid and personal impressions of that famous year. Defoe puts his story into the mouth of a humble but prosperous saddler who is made to speak with the convincing simplicity of a genuine eyewitness.

Though the story is in a sense dramatized and the author in Defoe took many minor liberties with it under the influence of his vivid imagination, the main facts are assuredly true, as is also the picture he painted of human nature under the stress of wholesale disaster. The realism of his narrative was such that one of his eminent contemporaries, Dr. Mead, quoted it at the time as an authoritative work.

The onset of the plague was gradual. A case here, a case there, so few and far between that hardly any one gave heed to them as the rumblings of the great storm to come. Late in November or early in December 1664, two men, said to be Frenchmen, died in London in a family that did its best to hush up the cause of death, thought even at the time to be plague. But "murder would out," and soon the secretaries of state got wind of it and appointed two physicians and a surgeon to visit the suspected house. Finding evident tokens of the sickness on both the dead bodies, they gave their opinions publicly that death was due to plague. Whereupon, the parish clerk publicized these two cases in the weekly bill of mortality and aroused consternation all over the town. At this time the usual number of burials within the bills of mortality was between 240 and 300 every week. Towards the end of January, the weekly return showed 474 burials, the highest figure recorded since the preceding visitation of 1656. The storm was breaking.

The recognition of bubonic plague as such was not always easy, and there was some confusion with regard to the relationship of true plague to what was known as spotted fever. According to some authorities, the two terms covered one and the same disease. Be this as it may, there were obvious temptations not to recognize plague as such when it broke out in your own household and not to be fully honest with the parish clerk when he collected returns for the weekly bill of mortality. When, for example, there were forty burials in one week in a certain parish, and only fourteen of the deaths were officially notified as due to plague, Defoe brands this discrepancy as due to "knavery and collusion."

As the hot summer weather set in, the infection spread in a dreadful manner. All who could conceal their disease did so to prevent their neighbors from shunning them and the authorities from shutting up their houses. The richer class of people, especially the nobility and gentry, thronged out of town with their families and servants. In one district nothing was to be seen but wagons and carts with goods, women, servants and children. Coaches were filled with people of the better sort, and horsemen were in attendance on them. This exodus gained such proportions that for some weeks there was no reaching the Lord Mayor's door without great difficulty. There was much pressing and crowding to get passes and certificates of health for traveling abroad, for without them transit through the towns on the roads or lodging in an inn might well be forbidden. The flight from London seemed the more venturesome, as it was rumored that the government had ordered turnpikes and barriers to be placed on the roads to prevent people from traveling.

The mythical saddler now began to ask himself whether he should remain in London or flee from it after having shut up his house. All his worldly effects were in his business and shop. He was, however, a single man, and his life might be at stake. Turning over the Bible, he cried: "Well, I know not what to do; Lord direct me!" Whereupon his eyes lit on the lines: "Surely He shall deliver thee from the snare of the fowler, and from the noisome pestilence."

The king's court was evidently not thus guided, and it fled the city in June and went to Oxford where the plague did not so much as touch them. For this immunity, royalty was not particularly grateful, "for which I cannot say that I ever saw they showed any great token of thankfulness, and hardly anything of reformation, though they did not want being told that their crying vices might, without breach of charity, be said to have gone far in bringing that terrible judgment upon the whole nation." The Merry Monarch, Charles II, does not seem to have enjoyed a "good press." But Defoe admits that the court, which had been gay and luxurious, put on a face of just concern for the public danger. The acting of plays was forbidden, and gaming tables, public dancing rooms and music houses, which had begun "to debauch the manners of the people," were shut up and suppressed.

As the plague spread, there were shrieks of women and children at the windows and doors of their houses where their dearest relatives were dying or dead. Sometimes a crowd would collect, but only in the midde of a great street, neither on one side or the other lest any one should come in contact with persons coming out

of a house or inhale infected smells and scents. Another effect of the panic was the attention paid to astrologers and others capable of interpreting "the conjunctions of planets in a malignant manner." Men's thoughts also turned to religion, of which there were several brands. With the restoration of the monarchy, the Church of England had again come into its own, but there had also been a revival of dissenting communities. At the height of the plague, official persecution of the dissenters relaxed, and they were even allowed to preach in churches whence the incumbents thereof had fled. "But after the sickness was over, that spirit of charity abated."

Another psychologic reaction to the plague was the ready ear lent to fortune tellers. The town swarmed with "a wicked generation of pretenders to magic or the black art . . . a thousand worse dealings with the devil than they were really guilty of." The victims of this swindling were for the most part "the middling people and the working labouring poor." Servants would ask: "What will become of me? Will my mistress keep me? Will she stay here or go into the country? Will she take me with her or leave me here to be starved and undone?" Many servants were indeed dismissed, and an abundance of them perished, "particularly of those that these false prophets had flattered with hopes that they should be carried with their masters and mistresses into the country."

Quacks and quack cures appeared in swarms overnight. The posts of houses and corners of streets were plastered with advertisements of sovereign cordials against the corruption of the air, of antipestilential pills, of a universal remedy for the plague and so on. One such advertisement ran as follows:

> An experienced physician, who has long studied the doctrine of antidotes against all sorts of poison and infection, has, after 40 years' practice, arrived to such skill as may, with God's blessing, direct persons how to prevent their being touched by any contagious distemper whatsoever. He directs the poor gratis.

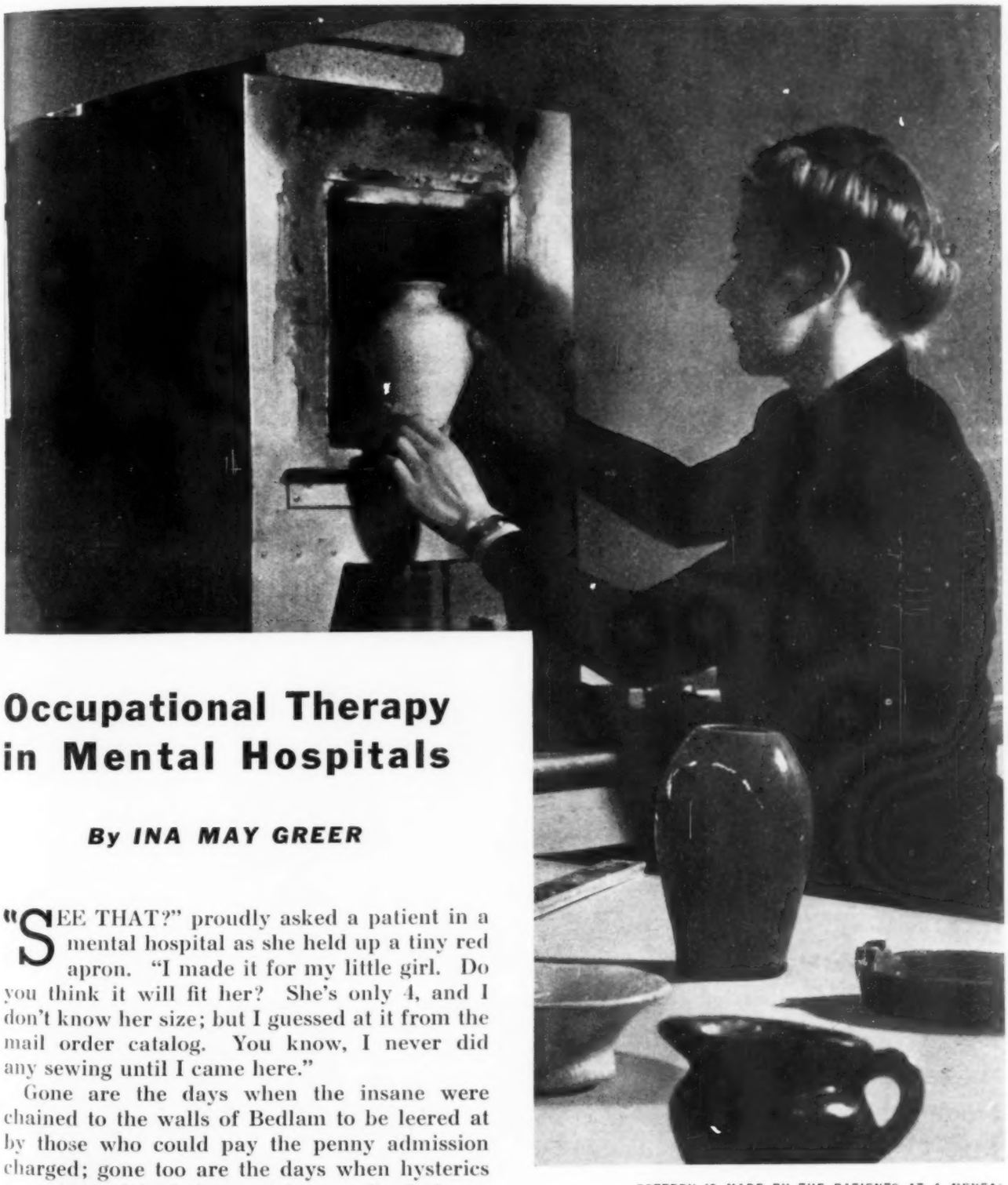
A philanthropist of this peculiar type "caught a Tartar" when he was consulted by a poor woman who craved advice for nothing. His gratis advice was to the effect that she should buy a preparation of him for half-a-crown. When she protested, he replied, "I give my advice to the poor for nothing but not my physic." But she was not to be put off by this argument, and she stood at his door all that day telling every one what she thought of him and turning away his customers till he was obliged to call her upstairs and give her his box of physic for nothing. There was no doubt that such quacks made great profits out of the misery of the people, for the crowds running after them were infinitely greater than those seeking the most famous doctors of the day. Some of these quacks pocketed £5, or $25, daily, a fortune at any time. Defoe does not mince matters when he tells of the charms and amulets sold to the poor and found on their dead bodies when they were carried away in the dead-carts and thrown into the common graves "with these hellish charms and trumpery hanging about their necks."

The plague stirred many a guilty conscience, and penitent confessions were made of crimes long concealed. "It would wound the soul of any Christian to have heard the dying groans of many a despairing creature, and none durst come near to comfort them. Many a robbery, many a murder, was then confessed aloud and nobody surviving to record the accounts of it. People might be heard, even into the streets as we passed along, calling upon God for mercy, through Jesus Christ, and saying: 'I have been a thief,' 'I have been an adulterer,' and the like."

The Lord Mayor, Sir John Lawrence, was a sober and religious gentleman, who appointed physicians and surgeons for the relief of the sick poor. He ordered the College of Physicians to publish directions for cheap remedies for the poor in all the circumstances of the distemper. But the plague defied all medicines, and even the physicians fell victims to it, "with their preservatives in their mouths." An abundance of quacks also died, their nostrums proving only a snare and a delusion before the great pestilence. Defoe has a kindly word for the physicians who assisted many by their skill, prudence and applications. "But it is not lessening their character or skill to say they could not cure those that had the tokens upon them."

It was with good success the Justices of Peace began to shut up houses, a measure which had already been adopted in 1603 at the coming of King James I to the crown. At that time Parliament had taken this step in "An Act for the Charitable Relief and Ordering of Persons Infected with the Plague." On the present occasion the authorities appointed two watchmen, one for the day and one for the night, to stand guard over every shut house with the duty to prevent both the ingress and egress of persons therefrom, on pain of severe punishment. Every house thus closed was to be marked with a red cross a foot long on the middle of the door with the inscription, "Lord have mercy upon us!" This was permanent until its lawful opening.

(To be continued)



POTTERY IS MADE BY THE PATIENTS AT A MENTAL HOSPITAL, AND HERE IT IS SHOWN BEING GLAZED

Occupational Therapy in Mental Hospitals

By INA MAY GREER

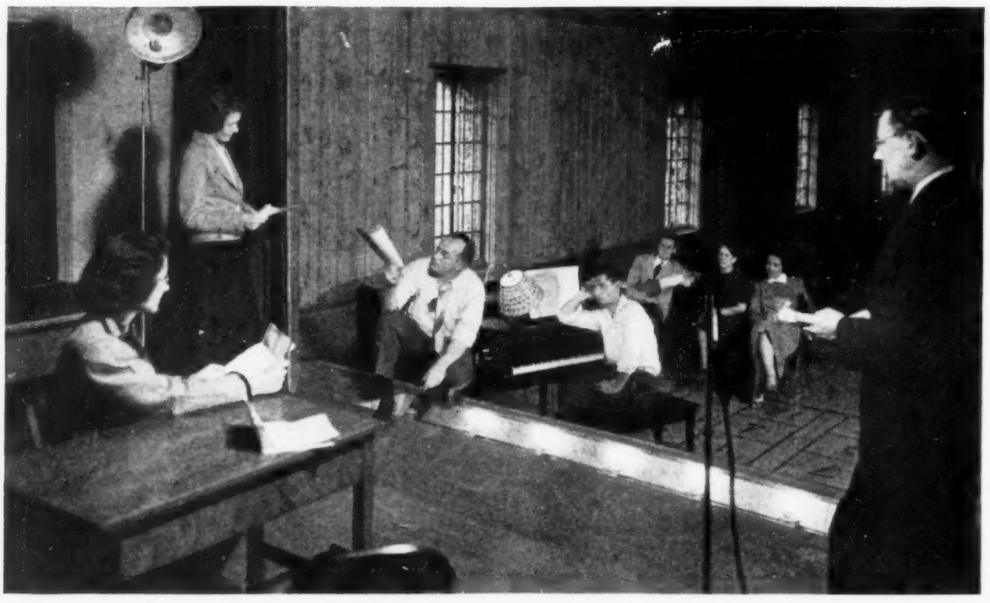
"SEE THAT?" proudly asked a patient in a mental hospital as she held up a tiny red apron. "I made it for my little girl. Do you think it will fit her? She's only 4, and I don't know her size; but I guessed at it from the mail order catalog. You know, I never did any sewing until I came here."

Gone are the days when the insane were chained to the walls of Bedlam to be leered at by those who could pay the penny admission charged; gone too are the days when hysterics were treated by being cast into a pit of vipers. The modern hospital strives instead to enable the patient to adjust again outside the hospital walls. Barring that, it tries to surround him with as normal an environment as possible, to which he can adjust. It is here that occupational therapy enters.

The idea of occupation or diversion as an aid in the treatment of disease is not new. David applied it to Saul, and Galen said, "Employment is nature's best physician, and is essential to human happiness." Pinel made arrangements with Parisian tradesmen to supply patients in the hospitals of Bicêtre and Salpêtrière with raw materials and to market their produce. A few years later, Dr. Benjamin Rush recommended to the board of managers of the Pennsylvania Hospital that women be given spinning, sewing and churning to do and that

Modern Therapy

IN THE ART STUDIO, PATIENTS ARE ENCOURAGED TO PARTICIPATE IN FIGURE MODELING.



PLAYS ARE ARRANGED AND DIRECTED BY THE SPECIAL THERAPISTS FOR PATIENTS WHO SEEM PARTICULARLY INTERESTED IN ACTING.

"YE SILVER SMITHY" IS ANOTHER PLACE IN THE HOSPITAL WHERE THE PATIENTS RECEIVE BENEFITS OF OCCUPATIONAL THERAPY.

men grind corn for the cows, cut straw, garden and saw boards. In 1845, Dr. Pliny Earle organized classes in English education, chemistry, natural philosophy and geometry for the Bloomingdale Hospital. In the same year, Dr. Amariah Brigham of Utica recommended that every institution of mental disorders have a farm and a workshop. Manual labor, he considered, engages attention and directs the mind to new objects of thought. Essentially he has listed the aims of modern therapy: increase of the patient's happiness, assistance in the problem of his management, bolstering of his power of concentration and will, preparation for usefulness after discharge, and increase of his permanent economic value.

The first systematic training in occupation was given by Miss Susan E. Tracy at Adams Nervine near Boston in 1906. Two years later the Chicago School of Civics and Philanthropy offered a training course to occupational therapy aides.

Despite all this, it was not until after the war that occupational therapy stopped being busy work and became a therapy, a science with aims, methods and philosophy. It became evident that while work in industrial shops and on the farms was of value to the institution it did little for the patient other than provide him with exercise and that while certain crafts and indoor occupations such as modeling and planing did curb destructive tendencies in the patient and keep him quiet, they were of no therapeutic benefit to him; instead, they became another medium for the expression of his twisted ideas and confused symbolisms.

With the new concept of occupational therapy as therapy rather than merely occupation came efforts to define. Dr. W. A. White has said:

> It is one of the avenues of approach in our attempts to solve the problems of psychotic behavior, and to accelerate, if possible, the process of social and economic readjustment.

The brochure of the School of Occupational Therapy at Boston contains the following statement:

> Occupational therapy aims to furnish a scheme of scientifically arranged activities which will give, to any set of muscles or related parts of the body in cases of disease or injury, just the degree of movement and exercise that may be directed by a competent physician or surgeon. It stimulates heart action, respiration and blood circulation accurately as prescribed, and at the same time it yields some of the joy and satisfaction that wisely selected, wholesome occupation provides in normal life.

Perhaps, however, the best and most succinct definition of occupational therapy is that given by Caroline N. Shaw:

> Any activity definitely prescribed and guided for the purpose of contributing to and hastening recovery.

The definitions quoted indicate, as good definitions should, the matter, aims and mission of occupational therapy. The aims are varied; yet essentially they are directed toward the rehabilitation and reeducation of the patient. Primarily, the occupational therapist tries to give a modified normal atmosphere to the patient in which he can spend a certain amount of his time and so not lose complete contact with his extramural activities. For this reason, games, music and reading are frequently under the direction of the therapist. Not only do they divert the patient's attention from himself, but they provide a medium in which he may exercise his social desires.

In the occupational therapy department the patient is treated as an individual. His needs

Posed by personnel of Neuro-Psychiatric Institute of the Hartford Retreat

IN THE DIETETICS LABORATORY, YOUNG HOMEMAKERS LEARN THE ART OF COOKING.

are studied; his inclinations and talents are considered. An attempt is made to draw his attention from unpleasant subjects, to train his thinking into more healthful channels, to reeducate him in habits of work and living, to give him a hobby that may act as a safety valve after his recovery and in some cases to provide him with a new means of livelihood. "We try to make the patient feel welcome and wanted," said one occupational therapist. "Part of his trouble at home may be his lack of success and his feeling of not being wanted. Suppose a man comes in whose wife has left him. He feels that he isn't wanted, that he is a failure. If we can get him interested, show him how to make something of which he can be proud, make him feel that he is welcome somewhere, that some one is interested in him, we have done something for that man."

Being therapy, the work is prescribed. The therapist now works hand in hand with the physician in charge of the patient. The physician decides when the patient shall attempt the new environment, how long he shall be engaged and at times even the type of work he shall do. Certain broad principles are, of course, laid down. With the dilapidated patient, who has been ill for a long time, who has sunk far within himself, having lost the interests of his active adult life, even having discarded most of the socialized mechanics of living, the first attempt at rehabilitation is directed toward the recovery of his ability to take care of the routine of living, dressing himself, keeping himself neat. For him kindergarten methods of instruction and employment are used: games, drills, perhaps even puzzles and string games. Fortunately, the need for such kindergarten methods does not always occur. Still, with each patient is the need to help him adjust to his hospitalization, to free him from the sensitiveness he may feel at having become ill, to help him over the irking rules of community life and the necessity for coping with the idiosyncrasies of a number of people, nurses, attendants, doctors, patients.

In the workroom he is given the maximum of freedom compatible with his safety. In one small state hospital I found big, airy, many windowed workrooms, through which the patients could roam. The department was small, yet the work was varied. In the carpentry room a desk was waiting to be stained. Under the jigsaw lay a partially cut out wooden doll. Over in the corner a Windsor chair was being scraped for refinishing. Across the hall, gay wooden wheeled toys, dogs, men on horseback, lions with ferocious lamb's wool manes and insouciant tails, parades of gay yellow ducks and long-eared, jointed dachshunds lined the window sills. On the table were half-painted toys, a wooden cigaret box partly carved, a stool being recaned, a wood basket waiting for a handle. Along the shelves stood reed sandwich trays, tall wastebaskets, flower holders, pine needle sewing baskets. In a long room overlooking the hills, I found etched copper. Under a piece of glass lay an unfinished bit of tooled blue leather. Over against the far wall hung a painted wall mat. In the weaving room were looms of all sizes, foot looms, hand looms, factory made looms, simple home constructed looms. On one, linen hand towels were being woven, gay blue and yellow and green. On its neighbor, tapestry-like table runners were forming. On the large looms were rag rugs. Over on the table a hooked rug of brown and tan showed its pattern. In the office of the therapist, were embroideries and finished bits of leather work, tooled and laced purses, book covers, baby shoes, bedroom slippers, book ends, all made by patients in a small sixty-bed hospital.

In larger institutions, of course, the work is more varied. There may be book binding, picture framing, iron work, printing, jewelry making. In some hospitals, instruction may be given in science, history and literature. In others, music and plays are produced by the patients. In one institution, marionettes are the center of interest; the research, the writing of the plays, the construction of puppets and their manipulation, the working out of stage effects and scenery are all done by the patients.

The underlying principle of the therapy for those suffering from mental or nervous disease is the desire to assist them in regaining normalcy, to help make them more tranquil and contented, to aid them as much as possible in returning to a successful social and economic adjustment and, finally, to make their hospital life a productive, pleasant and comfortable one. The work must therefore be prescribed and fitted to the needs of the patient. The value of the work lies in its adaptation to the needs of the individual. It may be that this one needs stimulation, that one quieting and the development of orderly constructive habits of work, another a bolstering of his self respect. For each a different kind of task is chosen.

To a certain extent, the hospital is a self contained village. With the simplification of organization, the need for crafts and their value emerged. Certain of the crafts, such as basketry and weaving, have assumed importance because of their flexibility. To the talented individual they offer an outlet for his artistry. For the person who, like most *(Continued on page 379)*

"Can't go out—got a sore throat"

"SORE THROAT" in children is not to be taken too lightly. Sometimes it may be a simple congestion that accompanies the so-called common cold. But "sore throat" may also be the first sign of diphtheria, scarlet fever or pneumonia, and only a physician can tell. Frequently the few days lost in the early "home doctoring" of sore throat result in a seriously sick child, in the spread of the disease to others, and in greater medical expense than would arise if a physician were consulted whenever a sore throat persists for more than a few hours.

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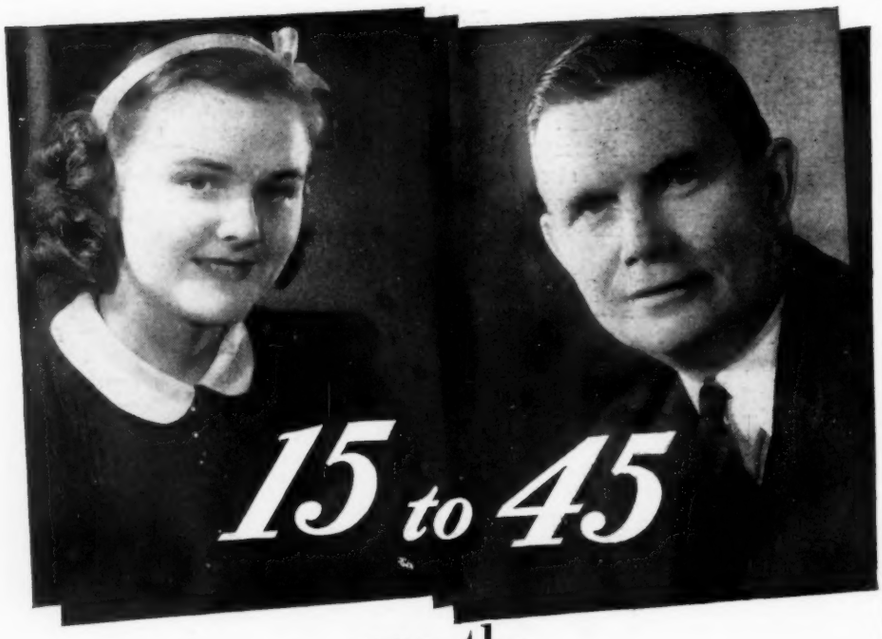

are the Years of Greatest Danger from TUBERCULOSIS

No age is immune from tuberculosis, but it kills more persons between the ages of 15 and 45 than any other disease. And all too frequently, tuberculosis in adults is actually the result of germs picked up in childhood.

Almost every new case of tuberculosis results from contact at some time with somebody who has the disease in an active stage. Each member of a household where active tuberculosis has been discovered should be examined.

Find Hidden Tuberculosis

Persons unaware of their infection are more likely to spread the disease than those who know they have it. A mother or grandfather may have so-called "asthma"; father or uncle "a smoker's cough"; a home employee "a husky throat." All these ailments may be undiscovered tuberculosis.

The first symptoms of the disease, often disregarded, may be an unexplained tiredness, weakness, listlessness, or chest pains. Later, loss of weight, a cough that hangs on, or the spitting of blood may cause the patient to see a doctor. But by this time some damage has usually been done, making treatment longer and more difficult.

Early Discovery—Early Cure

Your physician may wish to supplement your child's regular physical examination with the Tuberculin Test and X-ray. These are capable of detecting tuberculosis before it has made damaging headway.

Today most early-discovered cases of tuberculosis can be cured and even serious cases often treated successfully. Credit for many brilliant achievements in overcoming advanced tuberculosis is due to improved hospital treatment—especially modern chest surgery.

When every family takes advantage of modern methods of finding early tuberculosis, this "plague" may be exterminated. The medical profession and public health officials seek your cooperation. The Metropolitan booklet "Tuberculosis" contains information about the prevention of this disease and methods of caring for patients. For a free copy address a post card to Booklet Dept. 439-Z.

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FALSE ALARMS in HEART DISEASE

(Continued from page 300)

the heart muscle, such as might be occasioned by hardening of the nutritive arteries of the heart.

Pain in the heart region, other than angina pectoris, rarely is indicative of heart disease. It may be annoying, but its annoyance is usually in proportion to the conviction that the patient has that it betokens a damaged heart. Commonly the discovery that the pain has nothing to do with the heart is enough to make it disappear.

There are many false alarms in heart disease caused by anxiety generated by the traditions that have gathered around the word heart. Often this anxiety is unfounded. Many complaints ascribed to the heart are not due to disease there at all. And when there is heart disease the patient can often be guided to enjoy a long and useful life. Heart break and heartache more often reflect emotional stress than disease of the heart. But only the doctor can determine whether it is a false alarm or a genuine warning of heart disease.

Score Card of Healthful Habits

(Answers to test on page 337)

1. Yes	29. Yes
2. Yes	30. No
3. No	31. Yes
4. Yes	32. No
5. Yes	33. Yes
6. Yes	34. Yes
7. Yes	35. No
8. No	36. Yes
9. No	37. Yes
10. No	38. No
11. Yes	39. Yes
12. Yes	40. Yes
13. No	41. Yes
14. No	42. Yes
15. Yes	43. Yes
16. Yes	44. Yes
17. No	45. Yes
18. Yes	46. Yes
19. No	47. Yes
20. No	48. Yes
21. No	49. Yes
22. No	50. No
23. No	51. Yes
24. No	52. Yes
25. No	53. Yes
26. Yes	54. Yes
27. Yes	55. Yes
28. Yes	

H. Armstrong Roberts

TRAINING the BABY

By WILLIAM I. FISHBEIN

THE newborn baby is the most helpless of living things. He has the bare ability to keep alive, provided he is properly cared for. He has a minimum of preformed habits. Aside from breathing, swallowing, sneezing, perspiring and eliminating, his entire behavior must be learned.

A large group of nervous symptoms, vaguely referred to as bad habits, are likely to appear. Nail biting, thumb sucking, sleeplessness, excessive crying, bad dreams, night terrors, poor appetite, lying, stealing, bed wetting, tantrums and constipation are common if not normal experiences in the lives of many children. They appear and sooner or later disappear in some children; but they remain to plague the less fortunate for years.

They seem to become persistent or permanent in spite of the most strenuous efforts to "break them" of it. Those familiar with the ways of infants and children agree that these bad habits are more easily produced in early childhood than at other times of life. Consequently, it is essential to make it easy for the newborn infant to adjust himself to his new environment, in this way eliminating situations conducive to bad habit formation.

The emotions, responsible in many instances for the development of bad habits, appear when the child has a certain need that is not satisfied. The infant is hungry and is not fed. He is wet and uncomfortable, and his diaper is not changed. Emotional behavior, as for example crying, then occurs. This is the raw material from which more complex emotions later arise. In the process of development, such emotional responses become habitual when frequently repeated, and this type of behavior becomes part of the child's life.

A baby becomes angry when he wants something that he is unable to obtain, although he is willing to make the effort to get it. The anger most often expresses itself by crying and not infrequently by temper tantrums.

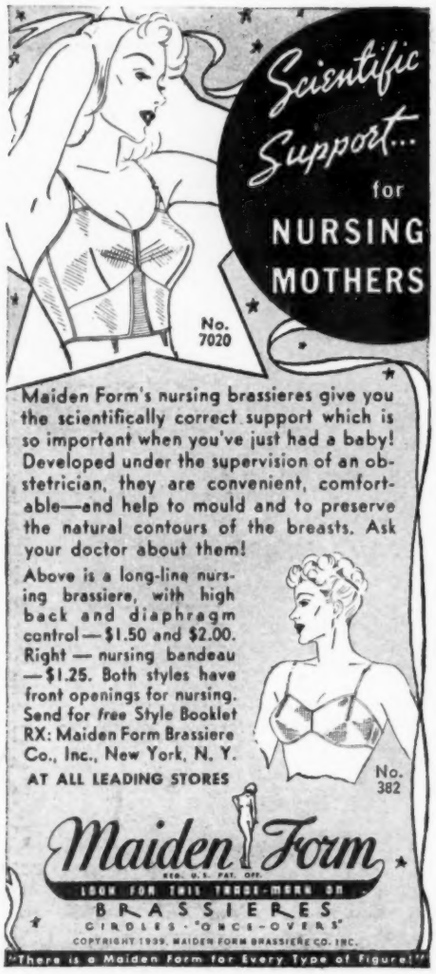
Of all the bad habits of infancy, excessive crying is the most common. It is also probably the first of such habits to develop. By crying, the baby may be able to make his wants known. If he is unsatisfied, crying may bring a change for the better. As he grows older and his needs become more complex, the desire for attention is added to his want of physical comforts.

Babies of today do not cry as much as babies used to. The improvement in large measure is the result of increased knowledge in the care and feeding of infants which permits less cause for discomfort. A large part of the crying which remains is due to faulty training.

The mother who can recognize a legitimate cause for crying rarely has the problem of excessive crying with which to contend. In contrast to this type of mother, behold the one who rushes to the infant's crib at the first wail. She suspects colic, although the infant has given no sign of digestive trouble. She fears hunger, though he has made a steady gain in weight. She suspects every variety of illness, although any infant who is sick rarely cries lustily or for long. The baby is picked up and—he has won a victory. The mother has started a losing battle, for to gain attention the child has found in crying a weapon the parent cannot resist.

In this manner, the habit develops which so many mothers find troublesome, that of crying at intervals through the night, with comparatively little crying through the day. The cause is simple. During the day, the baby receives all the attention he wants and probably more than is good for him. At night when his parents are asleep, he feels the need for attention, and since by experience he has learned that crying will obtain it for him, he begins to employ this weapon consistently and unremittingly.

There is nothing to be gained by picking the baby up when he cries merely because of bad temper or in order to obtain attention to alleviate his loneliness. A baby who is gaining weight, who is not sick and who stops crying the moment he is picked up is crying for attention. If such a baby is left alone to cry it out, the habit of excessive crying will be broken in a few days. Continuous loud crying in a baby is usually a demand for oversolicitude. It has been suggested that babies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DIAPERS

have different forms of vocalization to express different needs, such as one form for hunger and thirst, a fretful one due to discomfort, a shrieking one for pain. Careful tests, however, revealed no individuals who could recognize with any consistency the baby's needs from the tone or intensity of his cry.

When the baby cries, certain routine should be followed to determine the cause, if possible. Make sure that the clothing is not soiled or wet, cold or uncomfortable, too tight or too loose. Satisfy yourself that the bed clothing is not wrinkled, that all pins are fastened, that the infant is not lying in a cramped position.

If he really seems to be in distress he may be picked up, held over the shoulder and gently patted on the back to make him belch. The baby should then be put into his bed, made comfortable and his clothing smoothed. Under such circumstances, a healthy infant will in most instances quickly fall asleep.

If the crying continues, it strongly indicates that the baby's desire is attention. For this there is but one solution, the same that should be employed in solving the problem of crying at night with little crying during the day. That is, allow the baby to cry it out. Once the parent has decided to adopt this method it must be rigidly adhered to. Under no circumstances, after allowing the child to cry for a while, is it advisable to go to the baby and pick him up. To do so will only make the habit worse. At first the infant may cry for fifteen minutes, for half an hour, for two or even three hours. But the parents must not weaken. To give in to the crying on even one occasion will make the child cry longer and harder the next time. If the parents remain firm, each night there will be less crying, and within a week the bad habit will be broken.

In many instances the baby's continued crying may reflect the neurotic constitution or "nervousness" of the parents. In such cases it may be necessary to banish the mother from attendance on the child, when possible. By leaving the training of the child to those whose reason, rather than sentiment, guides them, the bad habit of crying is usually quickly controlled.

QUESTIONS FROM MOTHERS

Chewing Paper

To the Editor:—I have a boy 13 months old who is large for his age and slightly overweight. He chews paper and swallows it often if I am busy and not watching him closely. He has plenty of good cow's milk, orange juice, cod liver oil, toast, some cereals and vegetables. Is there something lacking in his diet which causes him to eat paper? If so, how shall I remedy this? Is it apt to harm his health if persisted in? I wonder if the ink used in printing newspapers might be poisonous if persistently eaten?

E. N. M., Kansas.

Answer.—The eating of newspapers does not, of itself, determine any lack of definite substances in the infant's dietary. Of course, since we have not examined your baby, we can have no opinion as to its own condition. The information we give you is of a general nature only.

Instead of worrying about the possible poisoning that can result from eating newspapers and the attending harmful effects from the consumption of printers' ink, it can be avoided easily and simply: Do not allow any newspapers to remain where the baby can get them. If the child insists on eating papers of all kinds or will actually hunt up newspapers in order to eat them, then it becomes a definite problem that should be submitted to your physician who has an opportunity of examining the baby.

Severe Choking

To the Editor:—What should be done when a child chokes? We have a 6 months old baby who is just learning to eat solids and frequently chokes slightly.

R. D. D., Colorado

Answer.—In any severe choking a physician should promptly be called. There is really little danger from the semisolid food which the child eats.

DO GERMS DESTROY LIFE?

(Continued from page 322)

nitrates—would be needed to help make good a shortage of the stuff of life. Trees would go into the same hopper; and paper, cloth, leather, furs and a thousand other products of the living world would be sacrificed to meet the more fundamental need of food. The possible indirect effects of such diversion of our staple commodities are endless. Wood, if it were needed as a source of sugar, could not be spared freely for building or furniture. Paper, likewise, whether it came from wood pulp or from rags, could not be too prodigally sullied with ink. Fur coats might come to be considered more valuable as sources of digestible protein than as means to external warmth—or to display! By and large, if we were to be saved from extinction, we would have to submit to a worldwide revolution more profound, more disruptive into the deepest corners of our lives than any that can be contemplated by the wildest political extremist.

At the very best there would be a long delay before stability could be achieved.

In the meantime, before the food factories could possibly be put into effectual operation, there would intervene a period of increasing universal havoc beyond imagination. The specter of ultimate complete exhaustion of the world's food supply would stalk the earth. Every one would be affected, rich as well as poor; for money—any wealth but food—would lose its value in a starving world without a future. With money valueless—and credit absurd—the all-embracing network of our system of finance and exchange would fall to pieces.

What would happen to our barriers of private property? Perhaps the well meaning, with the avaricious, the die hards and the unconvinced would try to maintain them to the bitter end; but eventually they must go down before the irresistible onslaught of universal hunger. Greed might guard its food stores for a while, but need would finally see them broken into and distributed. What would happen to government, to law and order? Even martial law could hardly be made effective if the troops themselves were hungry.

The absence of infection would now make matters worse, for

(Continued on page 352)

NEW . . . a CREAM DEODORANT

which safely

STOPS *under-arm* PERSPIRATION

1. Does not harm dresses, does not irritate skin.
2. No waiting to dry. Can be used right after shaving.
3. Instantly checks perspiration 1 to 3 days. Removes odor from perspiration, keeps armpits dry.
4. A pure, white, greaseless, stainless vanishing cream.
5. Arrid has been awarded the Approval Seal of The American Institute of Laundering for being harmless to fabric.

39¢ a jar

Also in 10¢ and 59¢ jars

15 MILLION jars of Arrid have been sold . . . Try a jar today—at any store which sells toilet goods.

ARRID

"Lux guards triplets' sensitive skins" SAYS THEIR MOTHER

"My babies were born with unusually sensitive skins," says Mrs. Margaret Whitmore, "so when I left the hospital I was advised to use Lux for all their clothes—and I did!" Careful mothers everywhere use Lux. It has no harmful alkali. Safe in water, safe in Lux.

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AMERICA'S BEST-KNOWN BABY

Gerber's grow and pack vegetables *specially* for your baby!

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Thumb-Sucking

PREVENTED THE NEW WAY

Simply apply BITE-X to thumbs or finger tips. It instantly forms a tough transparent coating unpalatable to taste. Also stops nail biting. Contains Aloin, 3.1%—Oleo Resin Capsicum, 1.5% in a collodion base. Approved by child specialists. Send for free booklet.

Satisfactory Results or Money Refunded

MAIL $1.00 to Dept. 201

CHILD WELFARE GUILD, 386 4th Ave., N.Y.

Leadership in Public Health Work (Continued from page 327)

however, bears a most important relationship to personal efficiency. Unbrushed, unpressed, grease bespattered outer garments and soiled linens bespeak a careless and flabby mental attitude, which is hardly calculated to command respect and admiration of subordinates or associates.

One of the most commonly used words in the English language is *gentleman;* yet it probably does not mean exactly the same to any two persons. To the English people it means something entirely different from our common conception of the term. To any one, however, I assume that the word gentleman includes a large number of the qualities that have thus far been described as factors in leadership. At all events it is a far-reaching term implying nobility of thought and action and as such constitutes the foundation on which the superstructure of true and abiding leadership must be built.

Thus far we have considered principally the qualifications for leadership, pointing out some of the factors to be avoided as well as those to be cultivated. Assuming that one is endowed with all the qualities that have been stressed, it is next in order to speculate on the most effective methods of utilizing the resources at his disposal.

The Greek word for "general" is *strategos,* from which our English word strategy is derived. Strategy, therefore, denotes generalship, or leadership of the highest order. It is most significant that the epoch making conflicts of history have in most instances been won by numerically inferior forces, or forces operating under a severe handicap of one kind or another. The expedition of Xenophon, known as the "Anabasis," is a splendid example of the latter. Also, in the battle of Salamis which turned back Asiatic conquest of Europe for a thousand years, the Greeks were outnumbered by the Persians at least by ten to one. In our own war of independence the Colonists were not only sadly outnumbered but had to combat well fed, well equipped regular soldiers with starving, ragged, untrained temporary troops lacking the barest essentials of war equipment. In our great Civil War, overwhelming Northern forces were repeatedly crushed by a handful of poorly equipped Southerners. In the struggle for Texan independence Sam Houston stands out as a master of strategy when he finally took his stand at San Jacinto, and with some 300 forlorn and exhausted followers on the verge of mutiny, he completely shattered the well equipped Mexican force of approximately ten times the number of his men.

In contemplating these phenomenal occurrences we are in the habit of explaining them on the grounds of a righteous cause. Certainly a worthy cause is a powerful weapon in the hands of any leader. But a far more significant factor in each instance is the skill with which the leader employed the forces at his command.

Exactly the same principle applies to health service. It is not by any means the organization with the greatest resources in money and personnel which accomplishes the most health services either in quantity or quality. Although health service rarely, if ever, calls for a display of physical force, it does nevertheless involve a constant struggle in which the enemy is represented by ignorance, inertia and human perversity. How to outwit, outmaneuver and overcome these forces calls on public health leadership of a high order of strategy.

Such a thing as a local health organization having all the facilities it could use is, like the end of the rainbow, rarely if ever to be found. As a rule, the personnel and equipment are much nearer the minimum zone than the maximum level. It, therefore, becomes necessary so to use the forces at hand that the maximum results may be secured. The logical strategy, therefore, calls for concentration on those items having the highest relative values. Even though certain items may be meritorious health projects, they may not necessarily qualify for a place in the active health program, as the health personnel may not be sufficient to undertake them. Proper strategy forbids spreading the services of the health workers too thinly over the territory served. Attack on any problem should be with sufficient concentration of strength to make a definite impression, and to overcome latent inertia in the object of attack. Once the inertia of a physical body is overcome, comparatively little force is necessary to keep the body in motion. This does not necessarily mean that a limited force must confine its efforts wholly to a totally restricted group of activities. By rotation of objectives even a limited force can attack a wide range of objectives in an effective manner. That is to say that a concentrated attack is applied on a certain objective until resistance begins to give way and that particular activity begins to move in the right direction. The pressure may then be slackened up somewhat in that quarter, and the mass pressure may be shifted to another objective until that also is set in motion. In this way the spearhead may be applied to a variety of objectives in rotation without wholly relaxing the pressure on any.

In dealing with human adversaries, some individuals never learn the strategic moment at which to halt the attack. Many a brilliant victory is lost by pursuing the attack too far. In the first place we must never look on an adversary as an enemy. We may be at war with his views and practices but not with the individual himself. That is to say, personality must be totally eliminated from a contest. When a struggle becomes personal, animosity and vindictiveness enter in, and, win or lose for the moment, the end result is always a loss. Never join an issue until you have previously prepared the way for certain victory, and when the time comes to strike, do so with such force and vigor that a successful outcome is never to be questioned. Preserve equanimity and a cool head at all hazards. If an adversary can succeed in getting you "rattled" or "riled" your case is well nigh hopeless. The moment your adversary is down, be the first to extend the helping hand. Nothing is more unsportsmanlike and unstrategic than to "rub it in." Properly managed, a beaten opponent may become your most ardent friend and supporter, rather than a sullen and vengeful menace.

One of the cleverest bits of strategy is that which enables an opponent to "save his face." In most instances a vanquished opponent realizes that his cause is lost long before you do. A shrewd strate-

gist should be on the lookout for signs of weakening. When these are discerned every ingenuity should be exercised to find for your opponent a way out of his embarrassment. Often this may be done by assuming that the opponent misunderstood the premises of the argument. Always give him credit for having the right motives. Avoid nagging, as this only begets irritation and resentment. Don't force him to "eat crow." It will always react unfavorably on you. By "saving his face" you save a friend. This is the kindly and gracious thing to do.

In pursuing the opponent too far there is the still further danger of making a martyr of him. Public sentiment is always for the underdog. If an opponent can create the impression that he is being imposed on or persecuted, public sentiment will rally to his side, making your position difficult, if not quite untenable. One of the most potent safeguards against such a situation is rigid adherence to significant principles rather than resting your cause on inconsequential details.

It is not uncommon for health workers to be called on as referees to effect harmony between discordant groups. In such instances one must carefully refrain from siding with either group. The best strategy in a case of this kind is to answer questions by asking questions, thus bringing about self condemnation of erroneous premises and leading each group to draw logical conclusions as the basis of agreement. Exactly the same method may be employed in dealing with individuals who have to be converted to your own views.

Paradoxical as it may seem, the greatest leaders are the least assuming. True self effacement, whereby the leader accomplishes his purpose by motivating and activating others, is a rare and valuable art. In sharp contrast stands that simpering, soulless and hypocritical false humility of the Uriah Heep variety.

Publicity is one of the important accessories to a health program. The slogan "Keep in print," is not out of order. This does not, however, mean that the names of the health workers are to be continually paraded on the printed page. It is not only bad taste, but the public soon becomes surfeited with personal publicity so that it tends to breed a hostile sentiment toward the program as a whole. It is the health program which is to be kept in print rather than the health officer or any of his force.

The proper strategy of health workers is to plant ideas in the minds of the people and to let these ideas issue from the people as their own. This is one of the hardest resignations in the world for a health worker to make. In dealing with the general public the task is not so difficult, but it is gall and wormwood to the average health worker to remain behind the scenes while a fellow worker parades an idea originally springing from one's own mind. In dealing with subordinate personnel it is far better for a superior to drop suggestions which can be taken up by subordinates and formulated into ideas which they can feel to be their own, than to issue specific orders for everything that is to be done. Not only is this the most effective strategy in the relationship between superiors and subordinates; but also in the reverse relationship, between subordinates and superiors, it is the only plan that can be pursued. A subordinate cannot direct his superior to do anything, but he can with the exercise of rare skill and judgment plant ideas in the mind of his superior. If such ideas should take root, the crowning point of success in the strategy consists in refraining from recognizing one's own brain child and claiming parentage. Since we all have superiors with whom to deal, the technic of leading them along the lines we deem best is of universal application. It is of no importance whatever that the authorship of an idea be publicized. To insist on this may even defeat the entire purpose. The one consideration which is important is that the idea be adopted and become an active part of the public health plan.

How are these doctrines to be reconciled with the thought that a leader is one who is "out in front"? These apparently conflicting ideas are compatible if we realize that being out in front does not mean being in the limelight or in the public eye. The general in charge of an army does not ride at the head of an attacking column nor does he occupy the front line trenches; yet he is out in front in the sense of thinking for his entire force and planning the entire campaign. Successful public health generalship likewise requires the health worker to be out in front with ideas and plans though the lay public may be used as the instrument through which the execution of such ideas and plans is accomplished.

If, after having exhausted all other strategic measures, your efforts fail to carry your point, there remains still another well recognized strategy. It is an old aphorism that if you give a calf enough rope he will hang himself. Those who disagree with you about policies which are recognized as being sound public health practices usually can be beaten at their own game by allowing them to pursue their own course to its illogical and absurd conclusion. In philosophy a similar procedure is known as *reductio ad absurdum*.

CHILD HEALTH DAY 1939

With "The Health of the Child Is the Power of the Nation" as their slogan, the Children's Bureau of the U. S. Department of Labor launches plans for Child Health Day May 1.

Their objectives for the 1939 program are threefold: to bring to the attention of each community (1) the importance to the child's health, development and well-being throughout life, of proper food, rest, exercise, medical care and protection against disease; (2) the ways of informing parents and others how child health may be safeguarded, and (3) the means whereby such safeguards may be made available for all children.

Under the nationally organized plan, a chairman and representative State May Day committees are appointed by state health officers. State departments of education cooperate in planning school Child Health Day programs.

As a climax to the year's health education program in the schools, children will show by exhibit, demonstration, programs and plays what they have learned about safeguarding their own and the community's health, and they will celebrate in festivals and games the progress made during the year.

Community groups will convene under a locally organized plan to discuss and initiate new health projects and community programs for advancing child health during the year.

Last year the governors of thirty-five states issued Child Health Day proclamations after the President had officially proclaimed May 1 as Child Health Day.

Eight HEALTH POSTERS 25¢

Here is an answer to that puzzling question, "Where can I find good health poster material?"

Everyone interested in public health instruction—teachers, nurses, physical directors, health officials, women's organizations—will find a ready use for these excellent posters. They are suitable for any age. Each tells a complete story in vivid, telegraphic style.

Printed in two colors—an intense black and a vibrant, attractive red—on a good quality fairly heavy white paper, size 11 x 14 inches.

These posters have been prepared by the Bureau of Health and Public Instruction of the American Medical Association.

SUBJECTS COVERED

Candy
Good Eyes
Keeping Cool
Healthy Hearts
Child Care
Laughter
Vacation
Colds

H. 4-39

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street - - Chicago

Please send me____sets of the health posters described above at 25c per set, postpaid. (Eight different posters to a set.) I enclose $____

Name_____

Address_____

MAIL THIS NOW

DO GERMS DESTROY LIFE?

(Continued from page 349)

famine would not breed pestilence; starvation would kill too slowly without infection to help it. What had been a blessing would become an added curse; there would be pain but not enough death.

And as the food supply still dwindled and human desperation mounted, every kind of living thing that still survived, every sort of product or remnant of life that remained would come to be used as food, however it might have been spurned before, or held sacred, or turned from with loathing. Cannibalism might become inevitable. Perhaps even profounder depths of human degradation would be sounded before the chemists could —*if* they could—set the world right again.

Germs, indeed, are the killers and destroyers of life, but life is built on death and destruction. One cannot do without the other. Life could hardly survive without microbes. Fortunately it will probably not have to try. Germs were surely among the first settlers on the earth. In all likelihood they will also be among the last. They are hardy and adaptable. The vicissitudes of evolution, which destroyed the mighty dinosaurs, seem to have passed the microbes by. In the seventy years or so of man's intensive warfare against them he has learned how to impose severe restrictions on the freedom of some, but he has not knowingly exterminated a single microbic species. At present he does not attempt to do so. After all, these considerations are a comfort.

SAFETY SONNETS

—National Safety Council

Accepted Brands of Oleomargarine

The following brands of oleomargarine stand accepted by the American Medical Association's Council on Foods, as of March 1, 1939:

Allsweet Oleomargarine (predominantly animal fat)
Anchor Oleomargarine (predominantly animal fat)
Anchor (Vegetable) Oleomargarine
Anchor Nut Oleomargarine
Delicia Oleomargarine (predominantly nut fat)
Dinner Bell Oleomargarine (predominantly nut fat)
Durkee's Oleomargarine (predominantly animal fat)
Durkee's Oleomargarine (predominantly nut fat)
Durkee's Vegetable Oleomargarine
Durkee's Bo-Kay Oleomargarine (predominantly nut fat)
Economy Oleomargarine (predominantly nut fat)
Gem Oleomargarine (predominantly nut fat)
Golden Crest Oleomargarine (predominantly animal fat)
Golden Crest (Nut) Oleomargarine
Golden Crest (Vegetable) Oleomargarine
Holiday (Nut) Oleomargarine
Golden Crest Oleomargarine (predominantly animal fat)
Mar-Via Oleomargarine (predominantly nut fat)
Maybelle Oleomargarine (predominantly animal fat)
Maybelle Oleomargarine (predominantly nut fat)
Maybelle (Vegetable) Oleomargarine
Mayflower Oleomargarine (predominantly animal fat)
Mrs. Filbert's (Vegetable) Oleomargarine
My Own Oleomargarine (predominantly nut fat)
New Honey Gold (Vegetable) Oleomargarine
Nu Blend Oleomargarine (predominantly nut fat)
Ohio Maid Oleomargarine (predominantly animal fat)
Ohio Maid (Nut) Oleomargarine
Ohio Maid (Vegetable) Oleomargarine
Our Banquet Oleomargarine (predominantly animal fat)
Palm Oleomargarine (predominantly nut fat)
Rex Oleomargarine (predominantly nut fat)
Rex Nut Oleomargarine
Sea Gull Oleomargarine (predominantly animal fat)
Southern Belle Oleomargarine (predominantly animal fat)
Southern Belle (Vegetable) Oleomargarine
Southern Maid (Vegetable) Oleomargarine
Sunlight Oleomargarine (predominantly animal fat)
Sunlight (Vegetable) Oleomargarine
Sunlight Nut Oleomargarine
Tasti Oleomargarine (predominantly nut fat)
Troco Oleomargarine (predominantly nut fat)
Wisconsin Maid Oleomargarine (predominantly animal fat)
Wisconsin Maid (Vegetable) Oleomargarine
Wisconsin Maid Nut Oleomargarine

OLEOMARGARINE FORTIFIED WITH VITAMIN A

Jelke's Good Luck Vegetable Oleomargarine
New Nucoa (Vegetable) Oleomargarine

OLEOMARGARINE

OLEOMARGARINE is a food fat, and in common with other fats it is a concentrated food. Oleomargarine is made by blending several kinds of highly refined fats and oils with pasteurized skimmed milk. The fats commonly used are: cottonseed oil, coconut oil, soybean oil and oleo oil. Small amounts of neutral lard, palm oil, palm kernel oil, peanut oil and babassue oil are also used. The fats are melted thoroughly, mixed and churned with pasteurized skimmed milk that has been previously ripened under controlled conditions.

To prevent the oils and skimmed milk from separating, small amounts of emulsifying agents are added to the mixture. The emulsifying substances which are chiefly used are inorganic phosphate, lecithin and a special synthetic product. The product is then solidified by chilling and packed usually in one pound packages.

It is customary to classify oleomargarine according to the source of the oil or fat which is used. Thus "animal fat" oleomargarines are made from animal fat such as lard and oleo oil. Those oleomargarines containing principally a fat derived from vegetable sources are termed "vegetable margarine." "Nut margarines" are made from nut oils and should contain no cottonseed oil or soybean oil or oil from any source other than nuts. Strictly speaking, peanuts and coconuts are not nuts, but it is common practice to regard these oils as nut oils.

Oleomargarine is used as a spread for bread as well as for cooking purposes. Until recently oleomargarine has had one serious nutritional handicap, and that is that it lacked vitamin A, the vitamin which is found in some animal fats such as butter and fish liver oils. Some manufacturers have now overcome this deficiency by adding to the oleomargarine during the manufacturing process a product rich in vitamin A. This preparation also contains vitamin D.

Some European countries require all oleomargarine to be fortified with vitamin A. But in the United States, oleomargarines produced from animal fat may not be fortified with vitamin A because of an existing ruling of the Bureau of Animal Industry of the United States Department of Agriculture.

FIRST AID

for sheep counters

A CUP of piping-hot BOVRIL makes a marvelous "nightcap." Its soothing warmth, stealing gently through the senses, loosens taut nerves and instils a feeling of peaceful relaxation.

Invalids, convalescents, elderly people, light sleepers welcome this appetizing, easily assimilated food-drink. Its delicious beefy flavor (it takes 20 to 30 pounds of prime, lean beef to make one pound of the extract used in BOVRIL concentrate) sets all your taste buds tingling.

BOVRIL, remindful of mouth-watering, sizzling-hot roast beef, is quickly and easily made—a spoonful to a cupful of boiling hot water. Many people, when a little extra hungry, make it with hot milk.

At fountains and lunch counters by the hot cup — 10c

At food and drug stores by the jar for home, sick-room and hospital use.

BOVRIL OF AMERICA, Inc., Camden, N. J.

BOVRIL

"BEVERAGE BEEFSTEAK"

ALSO BOVRIL BEEF BOUILLON CUBES

There are, however, no government regulations prohibiting the addition of vitamin A concentrates to oleomargarines made from vegetable fats. For this reason all oleomargarines containing vitamin A are made from vegetable or nut fats or both.

The Council on Foods considers that it is in the interest of public health to fortify oleomargarine with vitamin A in order to make it more nearly equivalent to butter in nutritional value. Butter contains vitamin A in the amounts that may constitute an important fraction of the daily requirement of vitamin A.

All accepted brands of oleomargarine with vitamin A contain at least 7,500 international units of vitamin A to the pound. The Council requires a statement on the label that the fortified product contains not less than 7,500 international units of vitamin A to the pound. Accepted oleomargarines also contain some vitamin D because both vitamins A and D are present in the concentrates used in the manufacturing process. The vitamin D thus added to the oleomargarine is declared on the label by the phrase "contains vitamin D."

It is a good idea to use oleomargarines that contain vitamin A as a spread for bread, as in the making of sandwiches, unless special consideration is given to other sources of vitamin A in the diet.

A meal containing a large amount of oleomargarine has staying qualities which are lacking from a meal low in fat. During adolescence and under conditions of hard labor, oleomargarine is valuable because its high fuel value helps to provide the large amount of necessary energy without overburdening the capacity of the stomach.

The seal of acceptance on a package of oleomargarine means that the nutritional qualities are what the manufacturer claims them to be. If the accepted product contains vitamin A, the consumer can be assured that the vitamin A content as claimed by the manufacturer has been verified by appropriate biologic tests, duplicate copies of which have been sent to the Council office. The seal of acceptance on a brand of oleomargarine also means that the advertising is maintained in conformity with the rules and regulations of the Council on Foods.

THE MAIN DISH MEALS

Now they're calling it a "main dish" meal. It's a modern streamlined meal, planned to perform its task of supplying the family's food needs with the least possible friction. And "friction" applies to disturbance of the pocketbook as well as to strenuous effort in the kitchen.

The main-dish pattern is simple. First there is a protein-rich food, usually meat or cheese, or perhaps fish or eggs. Then, there is a starchy food such as potatoes or a cereal in some form, corn or rice, macaroni or noodles. Frequently one or more succulent vegetables are added, as well as onion, celery, parsley and green pepper for seasoning. Tomatoes fit nicely into the main-dish pattern, supplying color, flavor and liquid, as well as valuable vitamin C.

Ideally, the main dish presents a balanced meal. But the children should always have their milk, and frequently a crisp raw vegetable salad or a fruit dessert are also needed to round out the balance. The protein food, always found in a true main dish, is necessary for building and repairing body tissues; while starchy foods furnish calories at comparatively low cost. The succulent vegetables supply vitamins and minerals.

Beef and ham gumbo in rice ring, a popular "company style" main dish, is most attractive with its bright green rings of okra in a red tomato-and-meat mixture, all against a snow white ring of rice. Canned as well as fresh okra may be used.

First dice a mixture of the two kinds of meat and brown in a hot skillet, adding no extra fat. Then put in the tomatoes and a little water if necessary, and simmer until the meat is almost tender before adding okra. A good proportion is about three fourths of a pound of cured ham to every pound of lean beef, and 1 quart each of tomato and sliced okra. Use such seasoning as the family likes, or the cupboard or ice box can supply, and chop fine. Onion, celery, parsley and green pepper are all good.

(Continued on page 358)

What's in an Egg?

By MARION DARTNELL

A bit o' wheat
And a bit o' corn
Perhaps a bug
Or a worm or two;
A bit o' grit,
And a bit o' hen
Makes an egg for you!
—*Don Walker*

THIS may be descriptive of the makings of an egg before the hen, last denizen of the barnyard to retain a measure of self determination, succumbed to the persistent forces of efficiency and mechanization. Once upon a time, the hen scratched happily in the dirt, fighting for worms, taking her ultraviolet as Helios chose to give it, laying an egg when the spirit moved her and proclaiming her feat with triumphant cackles. Today the hen no longer scratches, and she no longer basks. Her diet is a scientifically adjusted affair designed to provide her with essential nutrients adequate for her needs. She receives her vitamin D by way of regular dosings of cod liver oil. The temperature and humidity of her atmosphere are rigidly controlled. The hours of her work are meticulously regulated by artificial light. And her life is spent in a metal cell in rows of thousands of other cells called "battery-systems."

The consumer who visits a battery plant, or egg factory, for the first time may recall confused visions of the assembly line in Charlie Chaplin's movie, "Modern Times," or of the filmed futurisms of H. G. Wells.

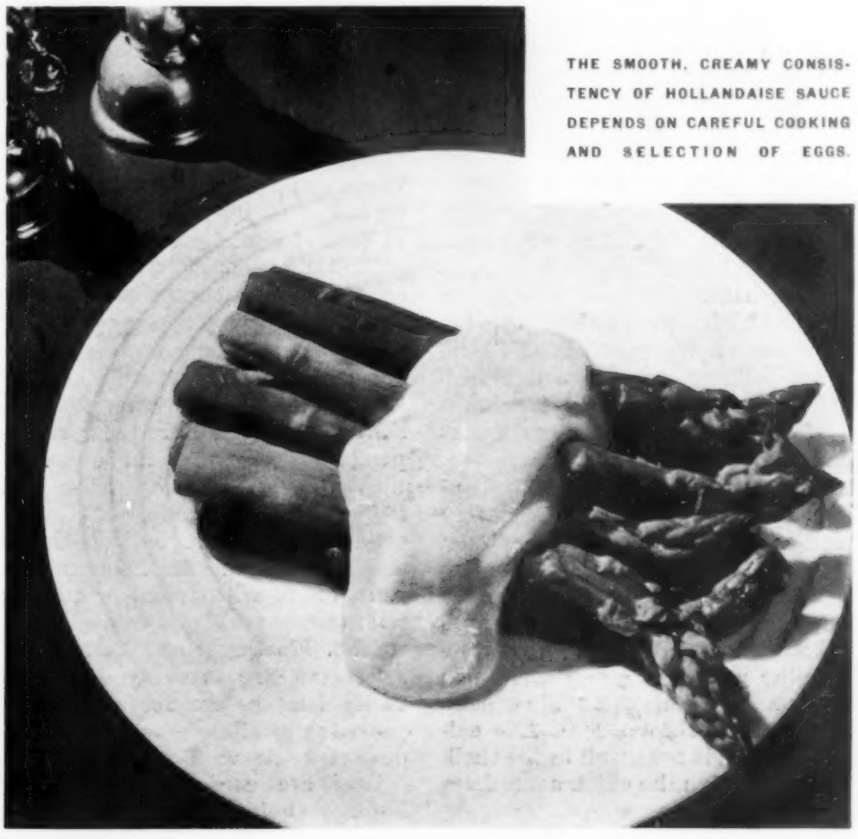
There are long rows of metal rectangles set up in the manner of gymnasium lockers. Each rectangle, or "battery," has three or more tiers of cells on each side; each cell is about large enough for a hen to turn around in. A rustproof steel trough runs the whole of each tier of cells, so that an entire row of hens may be watered at once. Each hen stands on a coarse-meshed grating inclined toward the front. When an egg is laid, it rolls out of the cell into a trough designed to receive it. Before each cell is a printed card with a square for each day in the month, on which the hen's production record is kept. Each hen has a production quota assigned to her. She maintains it, or else she appears somewhere shortly as dressed fowl!

Now that the business of egg raising has been freed from the conditions of rural life, great "egg factories" have been established in cities. In 1938, about 23,000 hens were working their thirteen hour a day shift in three factories in Chicago's loop area. This system enables the city housewife to buy not only fresher eggs but eggs having a more uniform nutritive value.

Eggs that go to market are graded according to local or federal regulations. The United States grades of eggs are: "U. S. Special," "U. S. Extra," "U. S. Standard" and "U. S. Trade." On U. S. Special and U. S. Extra sold under certificate of quality, merchants may use the additional designation "Retail Grade AA" and "Retail Grade A" respectively. U. S. Standard eggs, sold under seals authorized by the Department of Agriculture, must be marked in addition "Retail Grade B."

Grades are based on certain indications as to whether the attributes of a new-laid egg have been preserved. As the egg deteriorates, its liquids evaporate and the contents of the egg shrink, leaving a larger space at the end between the egg and its shell. In U. S. Extras this air cell must not be more than one-fourth inch deep. The yolks must be fairly well centered and moderately defined, with no visible germ development or other blemishes and firm, clear whites. When a top grade egg is broken the yolk will stand up firm and round, and even the white will keep its shape instead of spreading out flat.

Size has nothing to do with grade. Any size egg may rate Grade A, but they are also classified for size. A dozen eggs labeled "large" under U. S. Government grade definitions must weigh 24 ounces. A dozen medium eggs must weigh 20½



THE SMOOTH, CREAMY CONSISTENCY OF HOLLANDAISE SAUCE DEPENDS ON CAREFUL COOKING AND SELECTION OF EGGS.

ounces, and a dozen small eggs, 17 ounces.

The economical housewife buys the grade of egg that suits the purpose for which it is used. The best grade of egg for breakfast, whether poached, fried or scrambled is Grade A or U. S. Extra. There is a higher grade, U. S. Special or Grade AA, but the specifications for this grade limit it to rare appearances in retail stores. Grade B or U. S. Standard eggs are good eggs for most uses. Bottom grade eggs, U. S. Trade, are suitable for cooking dishes where egg flavor does not count so much.

Egg contains a great many substances which are essential for growth and development. When eaten, a big egg furnishes 75 calories.

One of the most important constituents of egg is protein. Like meat, egg is essentially a protein food. Protein is necessary in building muscle and repairing body tissue. The protein of egg is peculiarly adapted for the growth and development of a young chick from an embryo of a few dozen cells to a complete chick ready for hatching. Proteins valuable for the growth of one species of vertebrates are also valuable for another species; hence egg protein is valuable for growing boys and girls as well as embryo chicks. Most of the protein in an egg is found in the white. The yolk contains proteins too, in addition to many other nutrients. Egg white also contains enough sulfur to build the sulfur-rich structures, such as skin, claws and feathers in chicks, or fingernails and hair in human beings.

Like milk, egg yolk contains a fairly high proportion of fat. The fat of egg yolk is different from milk fat and is called lecithin. This peculiar fat—lecithin—is found abundantly in the brains and nerves of animals.

In the egg yolk are found all of the blood building materials, iron and the important trace of copper. Because of these elements, doctors recommend egg for infants as a supplement to milk, but not as a substitute, because neither the white nor the yolk of egg contains much calcium. For this essential element, milk is the richest source. The calcium of egg is nearly all in the shell, some of which the chick assimilates as bone-making material.

If the hen has the right kind of food, egg yolk is an excellent source of vitamins A, D and G (riboflavin) and a good source of vitamin B_1. Egg yolk is one of the few common foods that contains vitamin D in considerable quantities. For this reason egg yolk is especially important as food for children. Adequate amounts of vitamin D must be present in the child's diet together with calcium and phosphorus for proper bone development and to prevent the children's disease known as rickets.

The amount of vitamins B_1 and G is about the same in all eggs. Vitamin A varies considerably, depending on the diet of the hen, the number of eggs which the hen lays and on the time in the egg-laying season. Vitamin D can vary, also, according to the kind of feed and the amount of sunlight which the hen receives. However, between one egg and another on the market these days, there is probably little difference in this vitamin, since most hens are being fed a ration to which cod liver oil has been added.

The lightness or darkness of color in yolks does not indicate the amount of vitamin A present, as is commonly believed. Color in yolks is influenced by the character of feed given to hens. If hens get plenty of green stuff to eat, the yolk tends to be darker yellow and to be high in vitamin A. But hens given cod liver oil with their feed may produce eggs with yolk light in color and also high in vitamin A. There is no fixed relation between the color of the egg yolk and the amount of vitamin A present.

With the coming of Lent, when cookbooks are being searched for methods of preparing appetizing meatless menus, the housewife can always fall back on the old advice: "Take eggs." From the yolk for baby's feeding to after-theater suppers for grown-ups, the everyday uses of eggs, morning, noon and night are innumerable.

Soufflés, omelets, eggs poached, scrambled, fried with ham country style, baked with cream or curried with rice or scalloped or deviled or stuffed. Floating island, that chilled sweet familiar to many American tables long before ice cream appeared with Sunday dinner, is a dessert made with eggs.

Eggs are used in cookery for binding (holding meat loaves and other foods in shape); for leavening (giving fluffy texture to the soufflé and feathery lightness to the angel cake), and for thickening (as in floating island, custard, sauces and soups). Egg whites are used for clarifying the consommé; beaten egg white glazes the cheese straws and lends an adhesive touch to the croquettes and with oysters and scallops is a preliminary to bread crumbs and deep-fat frying.

The secret of success in cooking eggs and dishes in which eggs predominate is to cook slowly at a moderate, even temperature. It might seem that no person is left uninformed on this point, except for dismal evidence now and then of its neglect. Delicacy of a boiled or poached egg, whether cooked soft or hard, depends on those low temperatures necessary to all proteins. So does the texture of a soufflé, which—if properly prepared and baked—needs no bread-crumb prop.

A delicately tender and smooth textured custard can be obtained only by cooking at a low temperature. The safest way to regulate the temperature when making a baked custard is to put the baking dish or the custard cups which contain the custard mixture in a pan of water, which is kept below the boiling temperature while the custard is baking. Whole egg makes a slightly firmer custard than does egg yolk, although egg yolk alone may be used. One whole egg or two yolks will thicken a cup of milk, if the custard is to be cooked in individual casseroles. If it is to be baked in a large casserole, firm custard requires one and one-half eggs or three yolks for each cup of milk.

Ginger Custard

2 ounces candied ginger
4 eggs
2 cupfuls milk
½ cupful sugar
¼ teaspoonful salt
2 tablespoonfuls rum

Cut candied ginger in thin strips and use for garnishing sides of buttered individual molds. Beat eggs slightly, add sugar, milk and seasonings. Pour into molds. Set molds in pan of hot water, and bake in a slow oven, 250 F., until firm. Chill thoroughly, and remove from molds to serving dish. Serve with whipped cream or rum sauce.

Pop-Overs

2 eggs, beaten
1 cupful milk
2 teaspoonfuls fat, melted
1 cupful flour
½ teaspoonful salt

Sift flour and salt into mixing bowl. Combine eggs, milk and fat. Add liquid mixture gradually to flour and salt in order to obtain a smooth batter. Beat mixture until smooth. A rotary beater may be used. Pour into hot greased muffin pans. Fill one-third full. Bake from 35 to 45 minutes in a hot oven, 450 F.

Fruit Salad Dressing

2 eggs
½ cupful sugar
3 tablespoonfuls lemon juice
5 tablespoonfuls pineapple juice

Separate whites from yolks of eggs. Beat egg whites until stiff. Add egg yolks, sugar and fruit juice, and beat until thoroughly mixed. Cook over hot water until mixture thickens. Remove from fire at once. Cool. This dressing may be served as is or mixed with an equal amount of whipped cream. The juice of other fruits may be substituted for that of the pineapple.

Quick Hollandaise Sauce

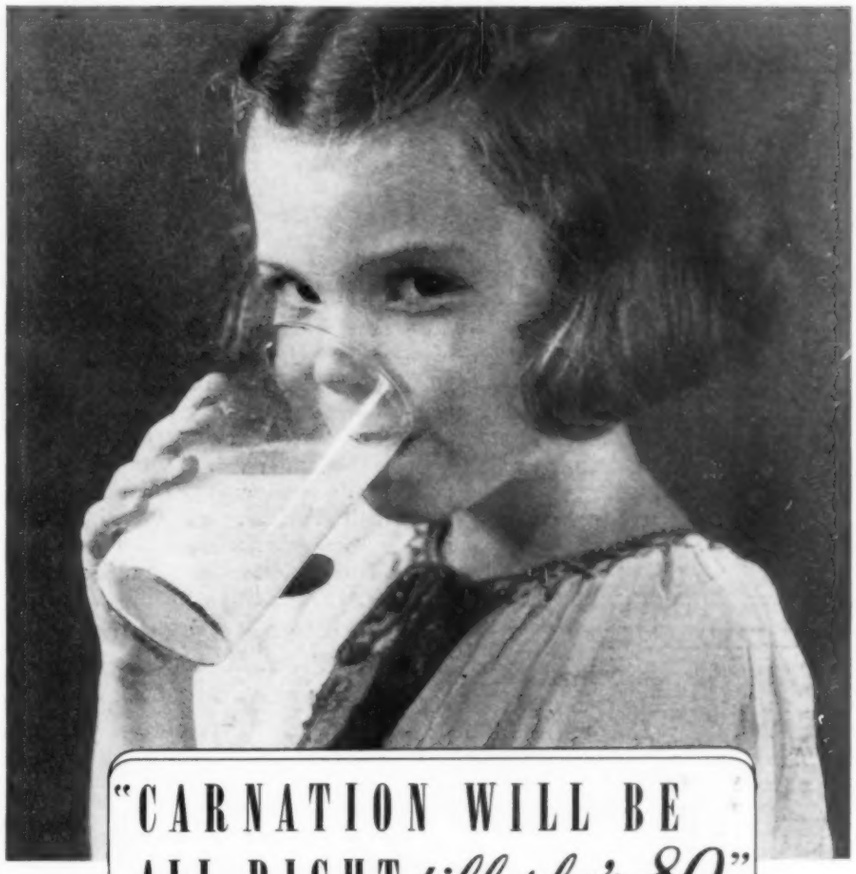
4 egg yolks
½ cupful melted butter
¼ teaspoonful salt
⅛ teaspoonful paprika
¾ cupful of boiling water
2 tablespoonfuls of lemon juice

Stir egg yolks, adding melted butter gradually. Season with salt and paprika. Add boiling water, stirring constantly. Put into double boiler, and cook just until thickened. Remove from fire, and add lemon juice. Serve hot or cold with broccoli, artichokes or other vegetables, or with fish. Serves six.

Prune Whip

2 cupfuls of prune pulp (4 cupfuls of cooked prunes yield about 2 cupfuls of pulp)
½ cupful sugar
2 teaspoonfuls lemon juice
4 egg whites, stiffly beaten

Mix pulp, sugar and lemon juice. Fold in stiffly beaten egg whites. Bake in casserole surrounded with water in moderate oven, 350 F., until firm to touch and delicately browned, or about 45 minutes. Serve hot or cold. Whipped cream is a delicious addition to cold fruit



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Toddlers in nursery school and *big* boys and girls from first grade to high-school *need* what Irradiated Carnation Milk gives so dependably, so economically. Let them *drink* Carnation, and cream their fruits and cereals with it. Use it to add food value and appetite value to their favorite dishes. They'll love it!

Recipes? You'll find some splendid ones in a free 32-page booklet, "The Contented Baby." Write for your copy to *Carnation Company, Dept. 701F, Gas Light Bldg., Milwaukee, Wis.*

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America's Favorites

whips. Any fruit pulp of pronounced flavor and color may be used in place of prunes.

SPANISH CREAM

1 tablespoonful granulated gelatin
3 cupfuls milk
3 egg whites
3 egg yolks
½ cupful sugar
½ teaspoonful salt
1 teaspoonful vanilla or
3 tablespoonfuls rum

Scald milk with gelatin, add sugar, pour slowly on slightly beaten yolks of eggs. Cook over hot water until thickened, stirring constantly. Remove from stove, add salt and flavoring. Fold in stiffly beaten egg whites. Pour into individual molds, and chill until firm. Serve with whipped cream or rum sauce.

EGGS WITH SPINACH

2 cupfuls cooked chopped spinach
1 cupful grated Swiss or American cheese
4 eggs

Butter the bottom of four individual baking dishes. Put ½ cupful of freshly cooked chopped spinach in each one. Sprinkle 3 tablespoonfuls of grated cheese over spinach. Then drop one or two eggs into each dish, taking care not to break the yolks. Cover with thin cream, and sprinkle top with one tablespoonful of grated cheese. Place in a hot oven until eggs are cooked and top is delicately browned.

EGGS WITH MUSHROOMS

4 tablespoonfuls butter
½ pound mushrooms
4 tablespoonfuls flour
2 cupfuls milk
½ teaspoonful salt
Pepper
Paprika
8 hard cooked eggs

Wash mushrooms, cut in slices lengthwise, and sauté in butter five minutes. Add flour, and thoroughly mix with mushrooms and butter. Add milk, and stir continuously until the mixture thickens. Butter four individual baking dishes. Arrange the slices of two hard cooked eggs in each dish. Cover eggs with mushroom sauce. Sprinkle top with finely ground cracker crumbs. Place in a hot oven until crumbs are brown and the mixture is piping hot. Serve at once.

THE MAIN DISH MEALS

(Continued from page 354)

A bay leaf and a little celery seed in the tomato-meat mixture add a distinctive flavor.

For a rice ring with a smooth outline, first cook the rice in about 8 times its quantity of gently boiling salted water, and cook it until it is very soft. Instead of rinsing the hot rice, pack it into a ring mold, which has been dipped into cold water. Just before serving, heat the molded rice for about 5 minutes in a moderate oven. It will unmold nicely if you loosen the edges, turn a hot platter over the mold, and invert both quickly.

A popular American version of the Italian polenta makes an ideal "family fare" main dish. It is simple, unusual, inexpensive. Prepare by frying slices of chilled corn meal mush and serve with a tomato sauce to which a small quantity of browned hamburg steak or left-over cooked meat has been added. Or use a plain tomato sauce, and serve the polenta with a dish of grated cheese to be sprinkled on as taste and fancy dictate. Or the dish may be baked using the corn meal mush cubes for the top and bottom layers and filling the center with the meat sauce.

But whether the polenta is fried or baked, there should be no lumps in the mush. It takes skill and practice to make lumpless mush by adding dry corn meal gradually to boiling water. A safer way is to mix the meal with a little cold water first, then stir in boiling water. Use no more than 3 cupfuls of water and about 1 to 1½ teaspoonfuls of salt for each cupful of corn meal.—*U. S. Department of Agriculture.*

A refreshing food drink. Full-bodied richness! Never thin or watery! High vitamin content!

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HEALTHGRAMS

FROM ARTICLES IN THIS ISSUE

¶We live in a sea of sounds, which are adventitious, not advantageous, and have no needful meaning for us.
See page 296

¶The heart has become the symbol of life and the accepted source of our deepest emotions. *See page 299*

¶One out of every three persons in the United States reacts positively to tuberculin tests, statistics show.
See page 306

¶Psychology and physiology agree that emotion, on which is based much of the character of the human being, is closely connected with the functions of the endocrine glands.
See page 309

¶Relaxation and bodily control will go far toward the development of a healthy, normal attitude, which is of the utmost importance in attaining an uneventful, happy issue out of the all too often devastating and debilitating experiences of life!
See page 324

¶In homes where well balanced meals are served and food is taken as a matter of course, where it is served attractively and without pressure or emotional tension, children usually imitate their elders and eat what is served them.
See page 336

¶The newborn baby is the most helpless of living things.
See page 347

¶The secret of success in cooking eggs and dishes in which eggs predominate is to cook slowly at a moderate, even temperature.
See page 356

¶The first business of the school is to promote the growth of boys and girls in every way, physically, mentally, socially and emotionally.
See page 372

¶A general practitioner of medicine is capable of caring for from 85 to 90 per cent of the ills to which human beings are subject, according to a five year study made by the Council on Medical Education of the American Medical Association. *See page 383*

"THAT WAS A DIRTY TRICK THE DOC PULLED ON YOU... TELLING YOU NOT TO DRINK NO MORE COFFEE!"
"YOU GOT THE DOC ALL WRONG... HE WAS DOIN' ME A FAVOR! YOU SEE, HE TELLS ME 'DRINK POSTUM INSTEAD!'"

"CUT OUT COFFEE!" If your doctor should utter these words, you might feel that *this* time he was giving you advice that would be hard to take. For what is a meal without a good, hot, satisfying drink? But, then, when your doctor added,

"DRINK POSTUM INSTEAD!" Well, then it would mean you'd still have a satisfying hot drink without fear of consequences. AND YOU'D LOVE IT, TOO!

A hot cup of Postum has everything you want in a mealtime drink—Tempting fragrance...Delicious taste...*Without the harmful caffein!*

Postum contains no stimulant of any kind. It is simply whole wheat and bran, roasted and slightly sweetened.

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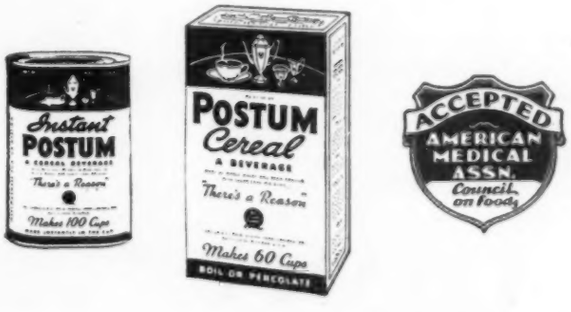
Postum comes in two forms: *Postum Cereal*, the kind you boil or percolate, and *Instant Postum*, made instantly in a cup. It's delicious and easy to make either way—and economical (about ½¢ a cup). Postum is a product of General Foods.



QUESTIONS AND *Answers*

Epilepsy

To the Editor:—To what extent is epilepsy considered hereditary? What possibility is there that the disease would appear in the offspring of a man in whose family there is no trace whatever of epilepsy? In his wife's family there is only one known case, that of a cousin, whose affliction is believed to have been caused by rough treatment he received as a child. P. B. O., Virginia.

Answer.—Epilepsy is sometimes inherited, but probably it is more often caused by injury or disease. Even if the malady were inherited in the cousin referred to, the chance that it would appear in the offspring of the woman mentioned would be remote. If, however, the epilepsy of the cousin is the result of injuries received as a child, the idea that epilepsy would occur in the offspring may be dismissed at once. In any case, the fear that epilepsy might result is not sufficiently grounded to justify one in refraining from having children if children are wanted.

"Soapless" Shampoos

To the Editor:—Is sulfonated oil better for hair and scalp than ordinary shampoo? Is it a soap? If it is better than a soap, why? Are there different grades? What is it made of?

S. M. M., Michigan.

Answer.—The use of sulfonated oils in shampoos is still in the experimental stage. All a shampoo can do is to cleanse, and it is preferable that this be accomplished without causing irritation. Most formulas for sulfonated oil shampoos cause relatively little irritation. It is probably no better for the hair than an ordinary shampoo. It amounts to a modified soap in most formulas.

Sulfonated oils (castor and olive chiefly) are intended to emulsify the natural fats and make them water-soluble. They are used in various proportions as "soapless" shampoos. When the preparation supplies sufficient alkali, saponification is incompletely carried out.

Medicines incorporated in soaps are of questionable value, in that the active ingredients are in contact with the diseased tissues such a short time that little or no therapeutic effect is accomplished. If left in contact a sufficient time for the drug to produce a therapeutic effect, there usually occurs an irritant dermatitis from its use.

Cancer Classification

To the Editor:—A pathologist classifies cancer into groups or classes—one, two, three and four. What is meant by these different numbered groups? Do they react differently to the radiation given off by the x-ray?

C. C. N., New York.

Answer.—This system of grading tumor tissue is a pathologic classification used largely by the surgeon and radiologist as an aid in deciding on treatment. It is of limited application and can be applied successfully only to a few types of cancer. Its chief value lies in its application to large numbers of cases; with individuals, it is less certain.

This method depends on the appearance of the stained tissue under the microscope. In general, grade one is regarded as the least, and grade four as the most, malignant. Grades three and four are considered more suitable for radiation treatment than grades one and two.

Peroxide as a Bleach for Teeth

To the Editor:—Is peroxide good for cleaning the teeth?

V. I. G., New Jersey.

Answer.—Dentists sometimes use hydrogen peroxide for bleaching teeth. But the hydrogen peroxide used is stronger than that commonly purchased in drug stores, and its successful use requires professional skill.

There is no reason to believe that the regular use of the hydrogen peroxide that is purchased in drug stores will bleach or whiten the teeth. It is probably no more effective as a tooth cleanser than water.

Black Box

IS SULFONATED OIL BETTER FOR HAIR AND SCALP THAN ORDINARY SHAMPOO?

Nausea at the Sight of Blood

To the Editor:—Is there any known remedy for the nausea produced by the sight of blood? Frequently persons who have an excellent knowledge of first aid fail because they cannot stand the sight of human blood. Strangely enough, the same persons can stand the sight of the blood of an animal. Is there an explanation for this behavior? Would you advise a person who is otherwise qualified to practice medicine to do so, knowing his weakness at the sight of blood?

C. P., Michigan.

Answer.—No specific remedy has been found for the nausea produced by the sight of blood. Individuals differ in the intensity of their emotional reactions and in the pattern of their reaction; in face of the same stimulus one man may faint, while another may vomit or experience nausea. When the pattern of reaction or the degree of reaction is unusual, one may talk of an individual idiosyncrasy. It is a general tendency of the human organism to react to distasteful or disgusting circumstances with a feeling of nausea. It is this fact which gives the very terms *distasteful* and *disgusting*.

Nausea may be a reaction to situations which biologically have little relation to the ingestion and rejection of food but which in view of their unpleasant or distasteful nature tend to arouse a reaction of rejection. In those who have a specially sensitive neurovisceral mechanism this distaste may express itself in the primitive biologic reaction of nausea or vomiting. Thus, the child who dislikes school attendance, if endowed with this special sensitivity, may vomit and thus be kept from going to his classes and regarded as a delicate child.

There are in the third place a group of individuals with this special sensitivity or idiosyncrasy who are apt to vomit under the influence of emotional tension even although the emotion be not a disagreeable emotion. Some individuals tend to vomit in face of a variety of tests, such as a boat race, a hockey match, a visit to a young lady. This reaction may be looked on as a residual from a deeply rooted biologic tendency to get rid of unnecessary cargo or impedimenta in

This young lady is one of the workers in the G-E Lighting Research Laboratory, looking for clues in the "crime war" against poor light.

How to find

THE INVISIBLE DOT

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From this and many other studies, it is possible to recommend the amount of light desirable for different seeing tasks. Today, with a G-E Light Meter, the amount of light in your home or office can be easily measured. Most electric service companies will gladly measure your lighting free of charge. Ask them to make a light meter check-up for you.

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face of an impending critical situation.

One may mention in the fourth place those who are nauseated at the sight of blood on account of some quite specific early experience associated with the sight of blood which happened, owing to the special circumstances, to produce nausea and which conditioned the patient's later reactions to this stimulus which otherwise would have remained comparatively neutral. In regard to this group a careful review of the past experience of the individual, with some discussion and explanation, might eliminate the difficulty.

With regard to the other groups, one may suggest that the career of an individual is not necessarily to be determined by a minor idiosyncrasy or by visceral whim. Some naval officers of distinction are subject to repeated seasickness but do not necessarily abandon their careers. Serious interest in and competence for a naval career may make this idiosyncrasy merely a trifling handicap. There are some distinguished physicians who still tend to faint at the sight of blood, and the early experiences of the medical student and of the nurse in the operating room are familiar to all surgeons.

Bedbugs Transmitting Syphilis

To the Editor:—Is it true that bedbugs carry syphilis?

A. G., New York.

Answer.—Syphilis is not considered to be a disease which may be transmitted by bedbugs or indeed by any form of insect carrier. One physician of national repute has pointed out, and his opinion is shared by medical and public health experts throughout the country, that syphilis should be the easier to control because it has no intermediary host and moreover no important reservoir of infection outside man himself. No authentic cases have been described by physicians in this country of transmission of syphilis by any form of insect carrier. Certain European physicians, on the other hand, have attempted to explain the high incidence of syphilis without the appearance of an initial lesion among certain classes of society in the Balkan states by the transmission of the disease by bedbugs, but this work has largely been discredited. The fact that the spirochete of syphilis is a fragile organism, easily destroyed by changes of temperature, drying or other variations in its environment, makes it difficult for it to exist at all outside the human body for any length of time. The best studies show that new infections of syphilis in the adult are acquired through sexual relations in more than 90 per cent of cases, and the few remaining cases are contracted through other types of intimate contact which bring the individual in direct apposition with early open lesions of the disease or their secretions. If bedbugs ever transmit syphilis they must do so with negligible rarity, and medical experts do not admit this mode of transmission as demonstrated.

Milk Stored in Tin Pails

To the Editor:—Is it safe to keep milk in tin gallon pails? Is it safe to allow the milk to clabber in these pails in hot weather and then eat it?

F. H., Nebraska.

Answer.—Milk can be safely kept in opened tin cans provided the same precautions observed in the commercial handling of milk in tinned steel containers are followed. For esthetic and sanitary reasons, containers for milk should be thoroughly cleaned before use. They should be kept covered to avoid contamination by air or other vessels and should be maintained at refrigeration temperatures.

Clabbering of milk is accompanied by an increase in its acidity. Foods of an acidity comparable to that of clabbered milk may acquire small but harmless amounts of metals when stored in opened tin cans in the ice box. Allowing milk to clabber in opened tin cans by exposure to room temperature during hot weather is not a recommended procedure, since excessive amounts of metals might be introduced. A type of container less easily affected should be used.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

WHITE ESKIMO CHIEF

(Continued from page 332)

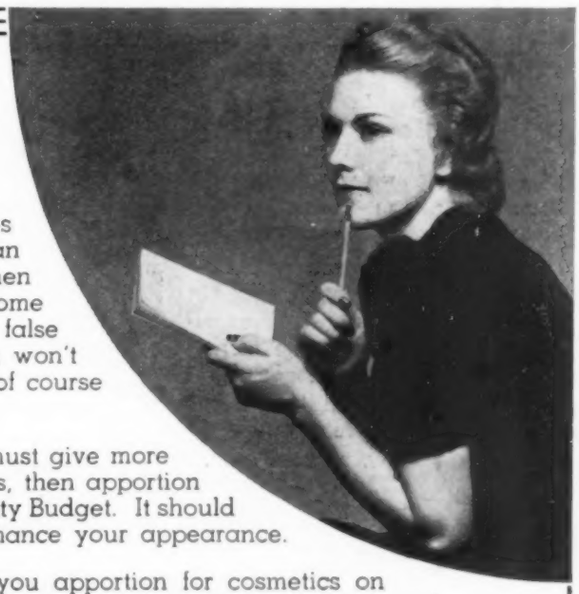
filth, be positively insanitary and unhygienic, yet live a life comparatively free from disease, has always been to me one of nature's greatest mysteries.

Between the two villages of Kipnuk and Chilitmute, I spent the following four days attending the sick and nourishing the weak. The stock of food supplies on my sled swiftly dwindled until I feared there would not be enough to last until I could arrive at the next trading post at Nelson Island, a three day drive from Kipnuk. As time was passing rapidly and the starving Eskimos demanded more and more of my time, the doubt entered my mind that I would be able to complete the itinerary which I had planned for myself. Would I be able to visit all the villages between here and the Yukon and return to my headquarters before break-up? It was a serious question. Regardless of my desire to tarry and render further help, I must continue my journey. Beyond this village I would find many more settlements in similar or in even greater need of assistance. My next stop would be at Chichinak, a distance of 20 miles from Kipnuk.

About halfway between the two villages, I chanced to pass a Sfanagamute Eskimo with his dog team. One glance at his scrawny dogs told me that conditions in his village must be as bad or even worse than I had witnessed thus far. One of his dogs in particular caught my attention. It was a female. Its body was completely devoid of hair, due, no doubt, to some disease it had suffered. Yet this Eskimo drove it in his team regardless of its freezing condition. Many parts of its hairless body were already badly frozen and it was sure to freeze to death before traveling much farther. Notwithstanding the vehement objections on the part of the Eskimo, I removed my rifle from my sled and shot the dog in its tracks. Eskimos are naturally cruel, because theirs is a continuous life-and-death struggle for their existence. But in times of famine their cruelty knows no bounds. Before continuing my journey, I had won the Eskimo's friendship through the medium of a plug of chewing tobacco and had converted him to my way of thinking. When we parted company on the trail, he actually considered it a good joke that I had wasted a cartridge on his dog, which was sure to die anyway.

Near Chichinak a group of men carrying a large keg quickly transported it to a place behind a knoll and out of the line of my vision. They had not anticipated my visit and had not seen me coming in time to hide the evidence of their guilt. I arrived in the village in time to witness the destruction of the keg and its contents of "white mule." From early Russian traders they had learned the process of making home brew. Here in the midst of famine and starvation these Eskimo men were illicitly consuming valuable food supplies for which their women and children

(Continued on page 381)



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BOOKS ON HEALTH

[NOTE.—Books reviewed or mentioned in this section, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association. Publishers' addresses will be found at the end of the section.]

Syphilis, Gonorrhea and the Public Health

By Nels A. Nelson, M.D., and Gladys L. Crain. Cloth. Price, $3. Pp. 359. New York: The Macmillan Company, 1938.

THIS new book presents a wealth of accurate, authentic information. The authors know their subject. They have given facts, not theories. The data are up to date and complete, and the opinions and conclusions are sound. Workers and students in this field will find it a valuable, practical textbook and guide.

O. C. WENGER, M.D.

Gates-Strang Health Knowledge Tests

Prepared by Arthur I. Gates and Ruth Strang. Paper. Price, $3.15 per hundred for each form; $25.20 per thousand; sample set, 15 cents. New York: Teachers College, Columbia University, 1938.

THE Gates-Strang health knowledge tests have been among the most widely accepted and used of all the devices for testing the health knowledge of children. In this revised edition their usefulness should continue as in the past.

They can be recommended without reservation for wide use in schools. They would also be excellent for party games of the mental "whoopee" type; adult scores would probably seldom equal the norms established for children!

W. W. BAUER, M.D.

For the Storyteller

By Mary J. Breen. Paper. Price, 35 cents. Pp. 44. New York: National Recreation Association, 1938.

THIS is a delightful and helpful little pamphlet "for the storyteller." It tells how to tell stories and when to tell stories and what kind of stories to tell and what kind of people to tell them to, and what story to tell first, how and when to tell personal reminiscences (and when to skip them), and where the traditional stories of childhood fit in best, and humor in stories and something about ghost stories. It tells how to prepare the story for telling, how to get the "feel" of the story before telling it and how to tell it. It discusses dramatizing stories, continued stories and poetry and suggests ways of combining stories with other activities. It tells about playground story hours and story contests. Among its most valuable features is a list of stories in fourteen classifications: collections of stories, picture books, poetry, folk tales, fanciful tales, animal stories, hero tales, stories of real people, romantic stories, mystery, humor and adventure stories, stories for the holidays and lists of stories for the storyteller. This bibliography alone is invaluable.

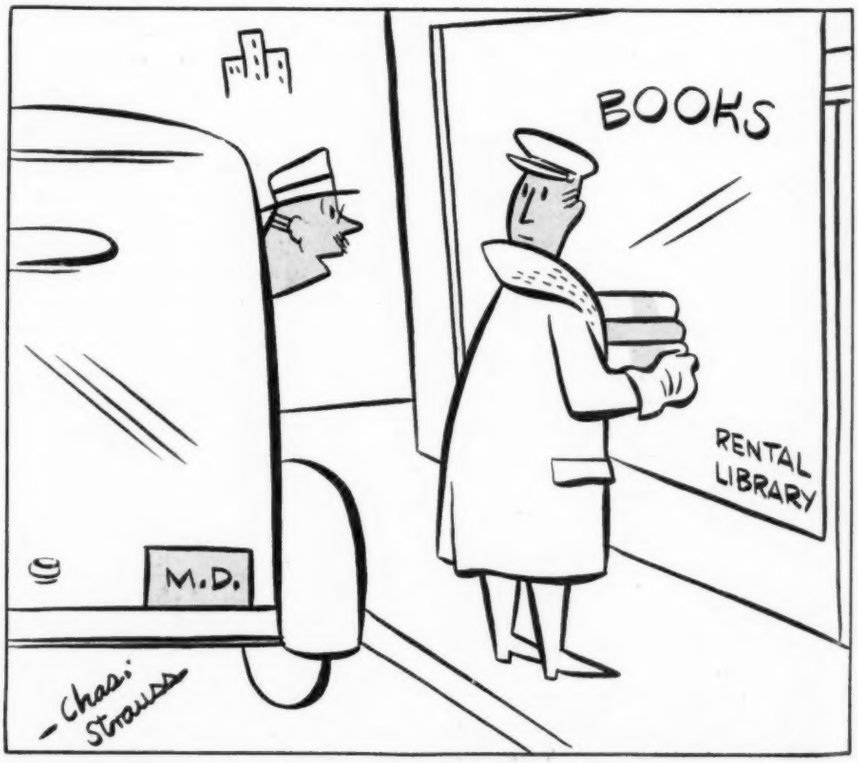
W. W. B.

Personality in Formation and Action

By William Healy. Cloth. Price, $2. Pp. 204. New York: W. W. Norton & Co., Inc., 1938.

HERE is a book that is timely, well conceived, stimulating and constructive. The author has had thirty years of experience in the psychiatric field, and this accounts, no doubt, for the attractive style and the quick, progressive tempo of the little volume. It is written for professional people, especially those in medical work.

The first of the four chapters deals with the materials of personality. A number of pages here are devoted to a criticism of biographers and biographies. The plea is put forth that biographers employ case study methods in order to animate their work. One's atten-



"AND JOSEPH, SEE IF THEY HAVE 'THE HORSE AND BUGGY DOCTOR.'"

tion is caught by the discussion of the organism-as-a-whole concept. The author feels that such a discussion is "academic and futile." He states that all the parts of the puzzle aren't known, may never be, and at present we certainly are unable to fuse all parts together. "Therefore, as we do not really know in any true fashion its [the organism's] inherent plans and significances, I sincerely doubt if any successful attack can be made on the emergent personality considered as a thing in itself. However, we can always consider another possibility and that is the therapeutic modification of certain parts and perhaps whole sectors of personality."

The second chapter deals with the developing personality, the various factors affecting the molding of the original materials.

In the third chapter the personality in widening relationships is depicted. The effect of the social milieu, creeds and ideologies on the plastic organism is put down in a manner that makes this section even more interesting than the former ones. Here we are given the picture of the broad field of the individual's play and interplay. It is stated in substance that the psychiatrist today, certainly in the future, not merely should treat personality deviations and attempt to promote measures of prophylaxis but should be keenly aware of his potentialities in assisting adjustment in other fields such as law, government, industry, sociology and education. Here in this broader horizon is a task which can best be done by one with a scientific knowledge of man.

The conclusion is concerned with implications for the future. An uncovering of more facts about personality and a wider dispersion and practical application of these somewhat esoteric data are conceived, the goal being eventual widespread, healthy personality formation. Today many people are asking whether there can be hope for improvement of individuals and groups of individuals so that constructive cooperation will be attained. Dr. Healy suggests an answer in this book. "It is not in a more extended knowledge of history and science and sociology that we shall find the avenues to betterment of social relationships. Rather it will be through knowing the range of facts centered about the momentous theme of our present discussion and fusing this knowledge into an emotionally tinged ideology."

The reviewer feels that this type of book should do much to cause professional people to realize that their social-economic values can be increased manyfold by their assisting in the dispersion of concepts of man in formation and action to all levels of individuals and into all endeavors. It is recommended highly as a facile, enjoyable and constructive work.

FRANKLIN G. EBAUGH, M.D.

Embryonic Development and Induction

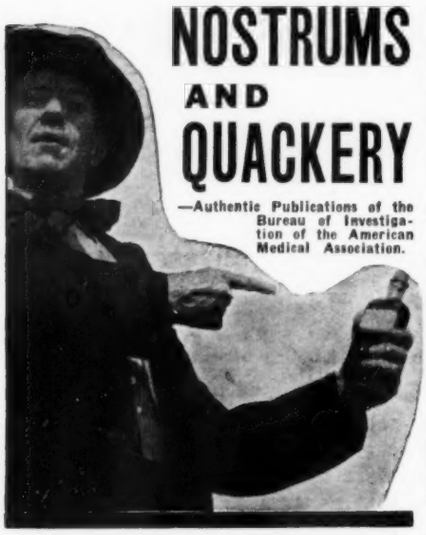
By Hans Spemann, Professor Emeritus of Zoology, University of Freiburg im Breisgau. Price, 85. Pp. 401. Illustrated. New Haven, Conn.: Yale University Press, 1938.

THIS is a study in biologic philosophy. Numerous facts are laid before the reader; many experiments are described and interpreted; the observations bearing on definite questions are marshaled, and then certain general theories of development are judged in the light of the evidence now at hand. The author is unwilling to admit that it is useless to hope for any scientific explanation of development and so is not content to call on a metaphysical "vital principle" which directs the processes and orders the time sequences.

His object is to throw light on some of the factors involved in development, and he says frankly that this is only the beginning of the analysis. The evidence is largely derived from the development of newts, salamanders, frogs and the like; and any reader interested in biology can follow the train of thought with the help of the introductory chapter on amphibian embryology. The eggs can easily be obtained in large numbers at the time of fertilization and can be followed hour by hour through the metamorphosis of the larva to the adult condition.

It is vertebrate development in diagrammatic form and seems simple until one begins to experiment and bring to light the complex factors that are involved. An elaborate surgical technic has been developed for cutting up, dissecting, splicing together and grafting the eggs and embryos. Newts and salamanders are particularly favorable for this sort of work. Even in the adult animal many cells are capable of reverting to the embryonic state after an injury, and to a certain extent they can begin development anew. Complex organs like limbs can be regenerated. The earlier the stage of development the greater is this capacity for regulation; the two cells that arise from the division of the fertilized egg can be separated from one another, and each may give rise to a complete animal, though smaller than the normal. By various ingenious methods the destinies of the several parts of the egg have been worked out so that we may speak of the prospective potency of any given part of the fertilized egg. If such a part be separated from the rest, however, it may give rise to more and often different structures than it would have produced normally. A bit of prospective epidermis spliced into the head region of another embryo develops in its new location into an intricately constructed part of the brain, in perfect harmony with adjacent parts.

Transfers can be made from one species to another, and the grafts can long be recognized in the host by persisting differences in pigmentation or cell size. Thus the fate of the graft can be accurately followed. If certain tissues, as the dorsal lip of blastopore, be placed beneath the outer cell layer, or ectoderm, of an embryo, the cells of the host are stimulated to produce an additional central nervous system although normally they would have become the simply constructed outermost layer of the skin, the epidermis. This process, Professor Spemann has called induction. Similarly, planting the prospective retina, or optic vesicle, under the ectoderm will stimulate it to produce a perfectly typical lens, and in some species any part of the prospective epidermis may be so transformed. Here the stimulus seems to be specific. In other cases it may be no more specific than a localized increase in metabolic rate. This, it would seem, may be induced in the surrounding cells by a bit of dead tissue or by chemical substances. This is, at any rate, a possible interpretation of the facts as here presented.



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11. Epilepsy "Cures"—"Treatments"

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If highly active cells are taken at the right time and from a proper region of a young embryo and transplanted to another, a complete accessory embryo may be organized about the transplant, which develops a definite sphere of influence. In such cases the host and transplant cells combine harmoniously in forming one and the same organ. This problem of "wholeness" or integration is discussed at length. It is the same principle which in normal development makes an individual out of a group of relatively independent organ rudiments. The independence of parts is brilliantly demonstrated by cases of "exogastrulation." Here the egg develops into an empty sac of ectoderm resembling epidermis which is loosely connected with a skinless, nerveless "embryo" with a differentiated gut, supporting structures, muscle and kidney in typical relation to one another. Yet when parts of the ectodermal sac are transplanted they demonstrate their capacity to form brain and spinal cord which normally arise from the ectoderm.

In other words, not only inherited capacities but also interrelations of parts are essential for normal development. Various theories have been proposed to explain this phenomenon of "wholeness" and similar conditions. Professor Spemann cannot accept the metabolic gradient theory of Child, largely because artificially introduced gradients do not bring about sufficiently striking changes in development. How, he asks, can induction by means of chemicals or tissues killed by heat be explained on such a theory? It may be suggested that in such cases the introduced foreign material sets up a high rate of metabolism in the surrounding cells of the host and that this is the source of the stimulus. This could readily be tested experimentally.

Spemann also feels that the gradient theory neglects the inherited potencies of the living cells. If, however, we follow Child and compare the vital processes to a flowing stream, then the banks correspond to the innate and inherited structure of the cells involved, the head of water to the gradients in metabolic rate. It is true that this theory does not account for the adaptations which we constantly meet in development. No one, it will be remembered, has made a single constructive suggestion concerning the mechanism of adaptation since Darwin published his theory of natural selection. The author's own suggestion concerning "wholeness" is that it corresponds to the psychic integration which is the basis of our own individuality. If we give this a mechanistic interpretation we would have to assume that the organization of the hereditary substances has a complexity comparable to that of the human brain. That is asking a good deal of it.

There is but little to criticise in this book. While some of the most spectacular work has been done in his laboratory or was stimulated by his own results, Professor Spemann has evaluated a vast literature which bears on his central problem. He is most gracious in his references to the work of others and most punctilious in assigning credit for the new ideas and methods he discusses.

G. W. Bartelmez.

The Tumbler's Manual

By William R. Laporte and Al Renner. Cloth. Price, $3. Pp. 122. New York: Prentice-Hall, Inc., 1938.

MANY teachers of physical education have felt that tumbling has certain special values and that it is worth the attention of all able bodied children of both sexes. It teaches control of the body under varying conditions and has a distinct safety value in developing automatic skill in falling from almost any position in the least dangerous way. How many fractures would have been prevented if the falling person had rolled himself into a ball instead of putting out a hand on which to strike.

This book's title indicates exactly what it is, a careful, systematic, well arranged manual of tumbling for individuals, pairs and groups, unusually well and fully illustrated so that any one ought to be able to understand the move which is being described. The elements of tumbling are grouped in progressions of closely related moves. For example, the handspring progression begins with the neckspring and continues with headspring, bent-arm handspring and straight-arm handspring. Each progression begins with the simpler exercises and advances to the more difficult; under each progression many variations are given as well as modifi-

cations for a group of four when possible.

Some balance work for individuals and pairs is included and the scope of the book as regards difficulty is from a forward roll to front and back somersaults in the air.

The writing is straightforward and clear and the suggestions for teaching excellent. It is the best manual on the subject which I have seen. DUDLEY B. REED, M.D.

Play and Mental Health

By John Eisele Davis. Cloth. Price, $2.50. Pp. 202. New York: A. S. Barnes & Co., 1938.

DAVIS, who was a practical expert on recreation, particularly among the insane, has written this book as a companion volume to a work dealing with recreational therapy to be used in treating the mentally ill. In the present volume, the various factors which go to make up adjustment to daily life and the achieving of happiness are analyzed partly from the literature and partly from the author's own experience and contacts with mental hygienists. A large section of the book is devoted to the use of play to adjust particular types of mental hygiene problems. The child who feels inferior can be adjusted by means of games which enable him to show his superiority. His intrapsychic conflict can be turned toward the outside by permitting him to enter into competitive games.

The volume is not well systematized, and its particular use would seem to be for the guidance of the teacher who is interested in knowing something more than ordinary educational technics. Perhaps the pediatrician and child guidance expert will find this book interesting, if not particularly enlightening, for they should be as well acquainted with the specific therapeutic use of play. LOWELL S. SELLING.

A Talk on Masturbation

By Addison W. Baird, M.D. Paper. Price, 10 cents. Pp. 8. New York: The Addison Press, 1938.

THE information contained in this pamphlet is correct, and the presentation is conservative and a bit moralistic. But the segregation of the topic from other phases of sex gives it an unwholesome emphasis. W. W. B.

Changes and Trends in Child Labor and Its Control

By Homer Folks. Paper. Pp. 30. Publication No. 375. New York: National Child Labor Committee, 1938.

THIS is a reprint of an address delivered at the sixty-fifth annual meeting of the National Conference of Social Work at Seattle, 1938. It outlines the history of child labor in the United States, claims that 850,000 or more children are still employed in gainful occupations in this country, relates the progress and present status of state and federal legislation looking toward the abolition of child labor, describes the status of the Child Labor Amendment to the Constitution of the United States (now ratified by 28 states, 8 less than needed) and makes a plea for continued effort. W. W. B.

The Road to Safety

By Horace Mann Buckley, Margaret L. White, Alice B. Adams and Leslie R. Silvernale. Paper. New York: American Book Company, 1938.

A. Away We Go. Price, 20 cents. Pp. 56. Preprimer level.
B. Happy Times. Price, 56 cents. Pp. 157. Primer level.
C. In Storm and Sunshine. Price, 64 cents. Pp. 152. First-reader level.
D. In Town and Country. Price, 72 cents. Pp. 216. Second-reader level.
E. Here and There. Price, 72 cents. Pp. 285. Third-reader level.
F. Around the Year. Price, 76 cents. Pp. 346. Fourth-reader level.
G. On Land and Water. Price, 80 cents. Pp. 357. Fifth-reader level.
H. Who Travels There. Price, 88 cents. Pp. 440. Sixth-reader level.

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PUBLISHERS' ADDRESSES

The following list contains the addresses of publishers whose books are reviewed in this section:

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National Recreation Association, 315 Fourth Ave., New York.
Prentice-Hall, Inc., 70 Fifth Ave., New York.
A. S. Barnes & Co., 67 West 44th St., New York.
The Addison Press, 12 East 86th St., New York.
National Child Labor Committee, 419 Fourth Ave., New York.
American Book Company, 88 Lexington Ave., New York.

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"OH, DOCTOR! MY FEET!"

(Continued from page 303)

involved in weight bearing. They act merely as stays on the mast of a ship; their purpose is to keep the leg bones vertically balanced on the stable foot. Normally, only a slight effort is required of them. But when instability of the first metatarsal causes the foot to roll out of its normal position, this muscular effort is vastly increased. Strained unnaturally by an abnormal load of body weight, these muscles are subject to constant overtension, with resulting pain and fatigue. Only the owner of such feet knows how exhausted and tormenting they really can be.

This, in brief, covers ordinary foot disorders, which are essentially a combination of strained joints, inflamed tissues and irritated nerves —conditions which only a physician is competent to handle. And as for the treatment of these common ailments, actually there are three major phases, which focus on three clearly defined sources of pain and disability: (1) superficial irritations; (2) inflammatory changes in joints, nerves and muscles, and (3) disordered mechanics.

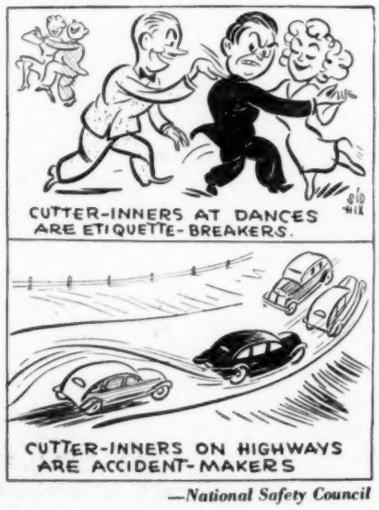
Superficial irritations. These include painful callus growths and corns that are goading the patient to desperation. They must be cleared up as a preliminary to successful treatment; a qualified chiropodist is competent to do this. The chief of these annoying ailments is the lowly "corn," which is nothing more than hardened layers of skin thickening over a point of friction or stress. The only way to make a corn disappear permanently is to wear a shoe giving the toes sufficient room. Though shoe salesmen and fashion declare otherwise, the shoe should be regarded solely as a protective foot covering, thoroughly comfortable and reasonably gratifying to the esthetic sense of the patient. A conservative model is recommended, for which no claims are made except that it is an article of apparel. The heel fit should be snug, and there should be sufficient metatarsal width both in the sole and upper. If this type of shoe is worn there will be no recurrence of the troublesome corns.

Inflammatory changes. The strained and inflamed tissues beneath the surface of the foot must gradually be brought back to normal by rest and circulatory stimulation. The latter is a most effectual means of combatting muscular exhaustion and tissue inflammation. Varying forms of physical therapy are used for this purpose, but "contrast plunges" are most effective and least expensive. They are taken in two buckets with the water of sufficient depth to submerge the feet and legs at least six inches above the ankles.

The feet are plunged first into the hot water (as hot as can be borne comfortably) for one and a half minutes and then immediately into the cold water for a half minute. The timing is important. After repeating the process five times, the feet are dried by a brisk rub with a rough towel. This treatment should be followed by a half hour of reclining, during the first four minutes of which light exercise of the toes and ankles is recommended in order to maintain the circulatory stimulation. Contrast plunges should be taken once a day and preferably as soon after working hours as possible. In acute cases, they may be taken twice a day and followed with a local analgesic rub.

Regarding "exercises for the feet," it may be pointed out that strained joints in other parts of the body are kept quiet, but exhausted feet are expected to get well under a regimen of "exercise" piled on top of their usual daily labors. Complete rest is recommended for the feet during the first painful period. Bed rest is preferable if possible. Restriction of activity is imperative.

SAFETY SONNETS



—National Safety Council

Disordered mechanics. We have seen that shortness of the first metatarsal bone or laxity of its ligaments are responsible for 90 per cent of functional foot disorders. When either of these conditions occur, this member lacks the necessary supporting contact with the ground. But this contact can be accomplished by inserting a small leather platform underneath the head of the first metatarsal. This platform, which is most conveniently a part of a specially designed insole and approximately one eighth of an inch in height, makes no attempt to supply an artificial support or assume the weight stress that should be borne by the foot. It really enables the defective bone to bear its full share of body weight and aids in the distribution of stresses to every segment of the foot just as properly fitted glasses restore normal vision.

It is impossible of course to diagnose structural defects of the foot merely by visual examination. The x-ray is an indispensable first step in accurately determining the cause of deep foot pains; one would suppose that this invaluable diagnostic aid would be constantly in use by those who prescribe for the foot. Unfortunately, the opposite is more nearly true, and the nature of foot ailments is often left to mere guess work. To every foot sufferer I say, "Unless you get an x-ray of your feet, you are likely to spend both time and money all to no avail."

To whom should the foot sufferer look for guidance and relief? In my opinion the general physician is the logical consultant in this field. Although podiatrists and chiropodists have recently elevated the standards of their profession, they are neither numerous enough nor uniformly qualified at present to handle the foot problems of approximately 40 million people. The general physician is certainly far better qualified than the agencies to which the public now flock. Responsibility for the more difficult cases may well be shared with the orthopedic surgeon, but these advanced cases comprise less than 10 per cent of the total. Both to the public and the physicians I cannot overemphasize the fact that foot ailments are serious, widespread, painful and justly entitled to responsible professional help.

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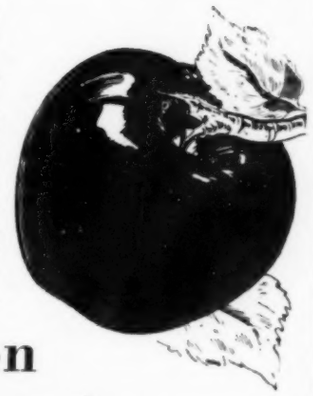

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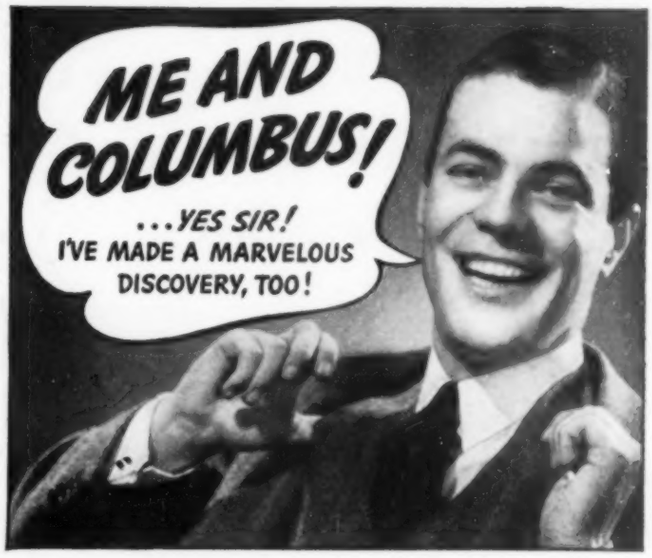

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CHRIS: The finest-tasting breakfast cereal you ever put in your mouth, Sam—Post's 40% Bran Flakes! They're selling at a new low price now—and I learned a few months ago Post's Bran Flakes are not only mighty fine eatin'—they also give you *two extra benefits* . . .

FIRST, Post's Bran Flakes provide just enough bran, a *natural* regulator, that helps protect you against sluggishness. People whose systems are irregular, due to lack of bulk in the diet, find Post's Bran Flakes, eaten daily, a wonderful help.

SECOND, Post's Bran Flakes are rich in phosphorus. They are a rich food source of iron, and a good source of Vitamin B_1 —an essential for maintaining good appetite . . . And today, Post's Bran Flakes come to you at a NEW LOW PRICE!

SIX MONTHS LATER . . .

SAM: You sure were right, old man —I've been eating those swell-tasting Post's Bran Flakes every morning for six months, and believe me, I never felt better in my life!

CHRIS: You said it, Sam! It's a great thing to find a cereal that tastes so *good* and gives you important *extra benefits* as well!

IMPORTANT: Post's Bran Flakes, due to their bulk, are a *regulative* cereal. Constipation due to insufficient bulk in the diet should yield to Post's Bran Flakes, eaten regularly—as a cereal or in muffins. For cases not corrected in this simple manner, a physician should be consulted. Post's Bran Flakes are a Post Cereal—made by General Foods.

Exercise is important to a child's health . . . so are school desks that prevent **SCHOOLROOM SLOUCH**

DOCTORS and nurses all agree that exercise is vital to a child's health and that good posture is too.

That is why it is so important that obsolete, ill-fitting school desks be replaced by desks and seats designed to build good posture habits. Long hours spent in an uncomfortable seat can often undo the benefits of health programs.

The American Seating Company has spent years in perfecting comfortable, posturally correct school seating. The American Medical Association has placed its seal of acceptance on the American Universal desk.

Doctors and nurses can do a great community service by urging the installation of this better, more healthful seating. Do your part to aid in its wider use. Write us for complete details.

American Seating Company

GRAND RAPIDS, MICHIGAN

America's pioneers in comfortable public seating • Manufacturers of School, Theatre, Church, Auditorium, Stadium and Transportation seating • *Branch Offices and Distributors in Principal Cities*

THE SCHOOL LUNCH SYSTEM

Group hot lunches are unmistakably supplanting the tin "dinner pail" in American education. For it is "education" when warm, appetizing, well balanced lunches help keep youthful minds and bodies in trim to make the most of their schoolhood days. Better lunches always result in better classroom work. It's obvious to teachers, and statistics prove they are right. And it's education, too, when children learn, through the lunchroom example, how to make good selections and form desirable food habits. Again, it's education when the luncheon hour brings the children practical lessons in social contacts and table etiquette with a little constructive art work in table decoration thrown in.

The school hot lunch is one dividend paying investment that experienced a boom during the depression. Educators had long advocated the movement, and years of financial distress and drought made action imperative. Now the advantages of supervised, nonprofit feeding of school children is almost universally recognized. Boards of education are gradually assuming responsibility for this important part of every school system.

In many rural schools, and others where there is little equipment and little money to spend, lunchroom managers face a difficult task. Under such conditions, serving a varied menu which meets the food needs of the children is enough to challenge the efforts of the most ingenious. But the rules are simple.

First, build the lunch around one hearty hot dish. Once a week the hot dish should contain eggs in some form, and on other days there should be meat or occasionally a cheese dish, dried beans or peas attractively served or a soup with real food value, such as a rich cream soup or a fish or vegetable chowder. This, with a sandwich—which may be brought from home—milk and fruit, make a satisfying meal.

There should be milk to drink every day, half a pint for each child and still more milk introduced in cream dishes, soups or desserts. If fresh milk is too expensive, or the quality is questionable, evaporated milk can be used.

SCHOOL and HEALTH

Conducted by J. MACE ANDRESS, Ph.D.

IS THERE TOO MUCH HOME WORK?

THE requirements for home work are on the retreat. This has been going on for a number of years. It is a question how much of it will be left in another decade. The decrease is due to the growing belief that home study is deleterious to the health of growing boys and girls. It is also disappearing because of a change in the philosophy of education. Home study has now pretty generally passed out in American schools in the grades below the high school. In the high school it still holds on with much of its traditional power. Will it continue? If so, will it be greatly reduced?

What do some of the educators say about home work? Dr. David Snedden, a noted educational authority at Teachers College, Columbia University, says: "The majority of schools are now in session some thirty-eight weeks a year. Even in the more progressive, four to six hours of study, recitation, exercising and listening to teachers constitute a pretty severe tax upon young and half-formed nervous systems. Excessive devotion to the memorizing of facts, still prevalent in most schools, is responsible for much of the home work assigned by harried teachers, often because the school day is not long enough for the necessary drill."

Carleton Washburn, another educator of national reputation, questions the necessity of home work. In answer to the question, "Will children be able to 'pass'; will they acquire all important parts of school learning, if they do no homework in the usual academic subjects?" he replies, "The answer to this question depends on the school. If children are assigned only home work for which they are sufficiently mature, if they are not required to learn useless and meaningless things and if the school is providing adequate opportunities for supervised study, home work is entirely unnecessary for the learning of the common school subjects. But when a school assigns work beyond the ability of the children, when it requires the amassing of many facts which have little or no significance to the child, when it insists on skills for which the child has no use, and when it wastes the child's school time by requiring him to spend a large part of it listening to others recite on things he himself has studied, learning is so slow and painful that the school is obliged to turn to the home for help out of the mess the school has created."

It is believed by some educators that the exactions of school work throw unnecessary strain not only on growing children but on parents as well. Willard W. Beatty, another well known educator, tells the story of a distracted widow who had three children, each of whom had lengthy assignments of home work nightly. After a day's hard work she prepared the evening meal and adjourned to the kitchen to wash the supper dishes. The children busied themselves at the kitchen table with arithmetic, formal grammar and writing formal letters of application for jobs while she worked. All through the evening, until each child was tumbled into bed, the hours were frequently punctuated with "Maw, how do you do this?"

Finally her patience was exhausted, and she wrote the following note to the teacher: "I have your letter urging that John give more of his homework time to arithmetic. I am only a poor widow woman, and I work hard all day to earn the money to feed and clothe my children. The government pays you to be their teacher. Please, just for once, can't we trade places? Suppose you teach them at school, and let me check at home what they learn. I haven't the time nor the patience to do your rightful job."

Dr. Beatty says further that the mountains of home work sent home night after night lead educators and parents to question what is being done at school. So much of the work has to be done at home that school administrators have begun to wonder whether it would not be better to have more of the children's educational experiences take place under the guidance of the teacher. It would be worth while to know who does the work, the parent or the pupil.

The review of the opinions of these three educators indicates that the matter of home study goes down to the fundamentals of the educational process. It raises such questions as these: Are the conditions of the home conducive to efficient home work? What can we say about home lighting, heating, ventilation and quiet? Teachers are trained for their work, but what can we say about the qualifications of parents to teach Latin and mathematics? Have we not false ideals in education? Aren't appreciations, insights and interests more important than drill on facts? Aren't schools using home work as an alibi for poor educational technic? Doesn't the school frequently abuse its privilege by requiring too long assignments? Aren't children using their eyes too much? Couldn't the evening be used for worthwhile hobbies, such as shop work, music and photography? There is so much criticism about the lack of wholesome family life that the evenings could be passed to advantage in reading,

singing, playing games and the sharing of other experiences.

More and more educators are coming to see that home work should not interfere with play in the open air, sleep and the development of communal life at home. The first business of the school is to promote the growth of boys and girls in every way, physically, mentally, socially and emotionally. Is home study making a real contribution to these objectives? This is a question for teachers, principals and superintendents to consider carefully and in the light of investigation to decide what can be done. The child's welfare comes first!

Teaching Highway Safety

By FRANK PIPER

Modern education emphasizes the importance of teaching youth what they need in their everyday lives. It is extremely important that they know how to drive an automobile correctly. This article shows how a practical unit on safety was developed in the senior high school of West Springfield, Mass.

JUNIORS and seniors in the West Springfield High School who are enrolled in the health classes recently attempted to evaluate their driving ability and to reward those who seem to show the greatest potential ability. The time allotted to this unit amounted to one period a week for twenty-five weeks. The pupils enrolled are high school juniors and seniors, about one third of whom have driving licenses and the rest of whom will no doubt have them in a few years.

There are several phases of the work that seem to be of importance. First, an adequate knowledge of the laws governing the operation of motor vehicles on the highways of the state should be studied, since insurance companies insist that a greater knowledge of these laws on the part of the driving public would do much to cut down accidents.

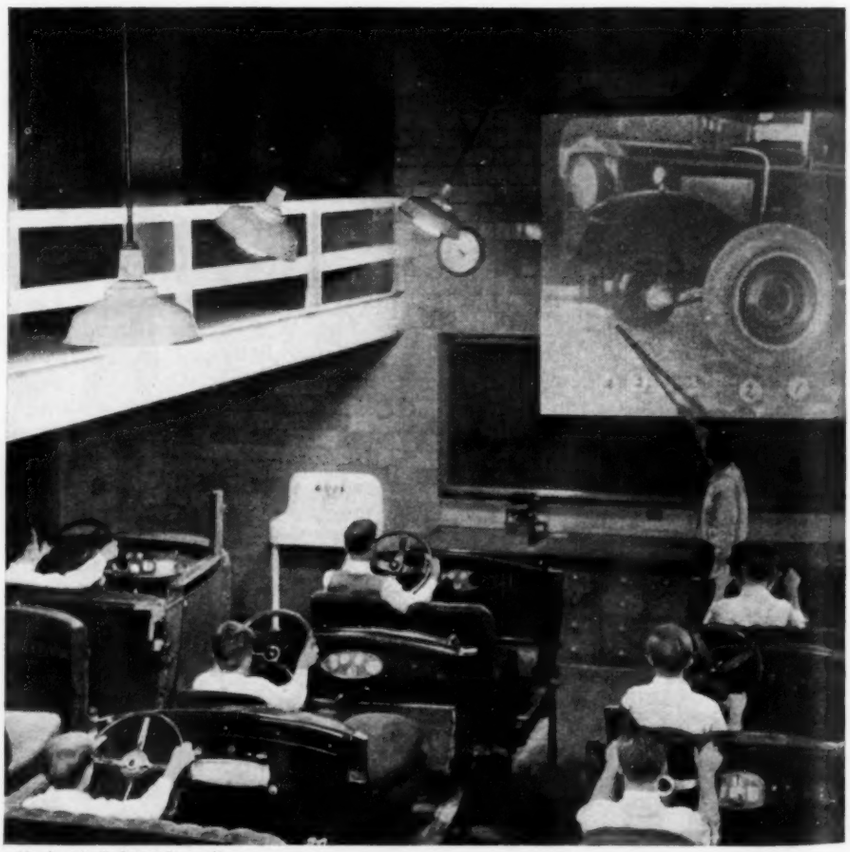
The second phase includes a careful study of the accident record for the state of Massachusetts in an attempt to analyze this record and determine the commonest type of accidents, the time of day and the months when most of them occur, driving conditions and the kinds of roads where these take place and the age groups most commonly involved. The pupils themselves consider it significant that the drivers of high school age have a poor accident record. A real attempt is made to get at the causes behind the facts and figures presented in class and from these causes determine the best methods of prevention.

A third phase involves some study of the mechanical side of the motor car, particularly from the point of view of safety. This includes discussion of such features as four wheel brakes, no-glare headlights, safety glass and all-steel bodies.

Finally, the matter of highway courtesy is stressed, and common driving faults are analyzed; instruction is given in what to do in case of an accident, and all this is supplemented by a course in first aid, in which every pupil is required to earn the American Red Cross Standard First Aid certificate. The time devoted to first aid is separate from the twenty-five hours given to highway safety.

There were four tests which were used to determine the pupils' potential driving ability. These were given at intervals throughout the course and measured every desirable characteristic in a driver for which we could find a satisfactory test. The first, given soon after the course started, was the "National Safe Drivers Test" by Herbert J. Stack, Ph.D., published by the Association of Casualty and Surety Executives. It is designed to cover the field of highway safety, and a careful study of the answers obtained gave us a fairly good idea of the phases that needed stressing most during the rest of the course. This test may be obtained from the Association of Casualty and Surety Executives, 60 John St., New York City, for $1 per hundred copies.

By the time the course was half over, a thorough study had been made of the driving regulations and state road laws, using the booklet issued by the Massachusetts Registry of Motor Vehicles. The "High-



National Safety Council

HIGH SCHOOL STUDENTS ARE TAUGHT SAFE DRIVING.

way Safety Test" based on these regulations and issued by the Massachusetts Safety Council was given, and a minimum mark of 80 per cent was required.

The third test was given with the cooperation of the Springfield Safety Council and the Aetna Life Insurance Company; each pupil was tested with a battery of machines in the following ways:

1. Braking reaction test.
2. Traffic light color test.
3. Glare test.
4. Speed estimation test.
5. Steering test.

Finally, an American Automobile Association test for high school pupils was given, which is called "A Project on Traffic and Driving Knowledge." It consists of a set of twenty-five questions involving typical driving situations, and it helped to determine the pupils' good judgment rather than his technical knowledge. This was given at the end of the course. This test or a similar one may be obtained by request at the American Automobile Association, Pennsylvania Ave. and 17th St., Washington, D. C.

The reward consisted of the presentation in school assembly of a certificate of merit to those who successfully completed the required work and passed all the tests with high marks. At this time it is pointed out to this group and to the whole student body that the possession of such a certificate indicates neither that the holder has any particular influence with the police, nor is it necessarily proof that the person is a good driver. It is simply a recognition that the pupil has the necessary qualifications that will enable him to become a good driver, if he also has the desire. Actually the only proof that he is a fit person to operate a motor car is his own reaction when he gets behind the wheel of a car without an older person to check his response.

The entire set of four tests is used for diagnosis and prognosis, and their successful completion gives the pupils a sense of having achieved something really worthwhile. They seem to feel that each test is a step forward in proving to themselves, and often proving to their parents, their ability to take their places as capable adults in this modern mechanized world of high powered motor cars.

From the school's point of view the work has been educationally sound for several reasons:

1. It has been definitely correlated with the work of school and society.

2. It has contributed to specific behavior objectives.

3. The entire unit of work has been developed in conformity with the hypotheses of learning that are generally accepted by psychologists and the best authorities in the field of safety education and that have been validated in common schoolroom experience.

Keeping Posture Conscious

By GEORGE WEINSTEIN

Teaching good posture is one of the most difficult problems in health education. Mr. Weinstein, of Newark, N. J., presents to our readers a practical program on posture which he has found very helpful.

IN SPITE of the fact that poor posture can result from any one or more of the following causes—malnutrition, fatigue, weak musculature, poor physical condition, structural malformation, defective vision, defective hearing, underweight, overweight, ill-fitting shoes, wrongly constructed school furniture, poor lighting at school or at home—the fact remains that much of it can be traced to just plain indolence and lack of interest on the part of the pupil.

Some of these factors are matters of administration. Others are beyond the control of the school or the teacher. Still others can be eliminated by education in the home or by cooperation with parents. But as a large part of poor posture is due to carelessness and laziness, a campaign against it can be successfully waged right in school and be made to carry over beyond school hours.

Stunts, drives and other devices, many of them frankly artificial, would be a part of this campaign and would be found especially necessary in the elementary school where an appeal to the child's reasoning powers would not be as effective as in the high school.

Some of these devices are briefly outlined below. They are not presented as parts of one unified campaign, but all or nearly all of them can be worked into one if desired.

1. Probably the most subtle and effective influence on the pupil's posture is unvarying good posture by the teacher, especially the physical education teacher. A good stunt here is to reverse the usual procedure by having the pupils check up on the posture of the teachers. Of course the teachers would have to be good sports about it, just as they would expect the pupils to be.

2. Posture tests may be given semiannually, quarterly or even monthly. The old Bancroft Triple Posture Test is still good and is easily given. Pupils can be classified into A and B, or into A, B and C groupings. Award a certificate, chevron, emblem, pin or badge to those in the A group and encourage the B's and C's to work hard for advancement. Great care must be taken to see that no stigma is attached to being in the lower group or groups. Frequent tests will keep the A's on their mettle and will give the B's and C's plenty of opportunity to move up.

3. Hold mass posture contests, based on the number passing the Bancroft or other posture tests. Competition can be between homerooms, physical education classes, entire schools or by any other intramural or interschool set-up.

4. Have live and frequently-changed bulletin board material handled by pupil committees. New committees, appointed monthly, will make for more interest. An abundance of free and nominally priced material is available.

5. Conduct posture essay contests. Have as many competing divisions as possible so that there may be plenty of winners and honorable mentions.

6. Posture poster contests may be conducted similarly to the essay contests.

7. Slogan contests can be run in connection with the poster contests or separately.

8. Have the pupils check up on the posture of movie personalities or athletic stars as seen in still photos, newsreels or regular motion pictures. Almost invariably these people will be found to have good posture.

9. Occasionally show posture movies. Some excellent 16 mm. films may be borrowed for a low rental fee or for merely the cost

of transportation. Films from Eastman Kodak Company, Rochester, N. Y., and the U. S. Department of Labor Children's Bureau, Washington, D. C., are available.

10. Display "silhouetteographs" and photographs of pupils before and after taking posture improvement exercises. Because of their concreteness, these will be found to be very effective. Identities of the pupils in the pictures should, of course, be concealed.

11. Posture parody contests may be based on currently popular song hits.

12. Hold limerick contests. These are usually lots of fun and provide an attack on poor posture through laughter and good-natured "kidding."

13. Write and produce skits and playlets about posture. Here also humor will be found to be effective.

14. Hold fashion shows. Models naturally must have poise and good carriage.

15. Make good posture a requirement for appointment to the school safety patrol, physical education leader's corps and other positions of student leadership.

There is enough material here to be spread out over the whole year. However, a continuous year round campaign might make the subject of posture monotonous. Occasional weekly or monthly drives with emphasis placed on different phases would accomplish more. And it might be a good idea to find or invent synonymous terms for "good posture." Good carriage, correct body mechanics, body control, bodily poise and muscular control are a few that have been used.

Much of the material listed here is well adapted for presentation through assembly programs. The use of popular students—like football players, club officers and others prominent in the extracurricular life of the school—will help in putting these programs across.

Food Experiments for the Classroom: VIII

By ETHEL AUSTIN MARTIN

The adventures in the discovery of what our common foods contain are carried on in this article to one of our most important foods, eggs. Mrs. Martin is director of the Nutrition Service of the National Dairy Council.

EGGS belong to the class of "protective" foods which also include vegetables, fruits and milk. Eggs are an important addition to the diet because they provide protein of excellent quality, are rich in iron and contain phosphorus, fat and vitamins A and G in significant quantities. Eggs are easily digested and therefore are useful in the diet throughout almost the entire span of human life. The yolk is richer in food elements than the white of egg. The yolk is one of the first supplements in the diet of an infant, and its chief purpose at that period is to supply iron.

It has been well said that eggs are "perfectly packaged by nature." This is no small advantage, for it often makes it possible to eat eggs under circumstances which make it dangerous to eat less carefully protected foods. The eggs used in this country are chiefly produced by domestic hens. In certain parts of the world, however, the eggs of other types of birds and fowl are used more commonly than here.

Egg Production in the United States

The north central states comprise the greatest egg producing area in this country. In 1935, for example, the total number of eggs produced in the United States was a little over 30 billion. Of this number nearly one-half (14 billion) were produced by the north central states. Iowa led this list in 1935 with a yield of more than 2 billion eggs.

More than one half of the total annual egg crop is laid during March, April, May and June. But egg-eating habits remain fairly stable the year around.

It is necessary, therefore, to preserve the surplus produced during the spring months for consumption during the other eight months. This problem is also intensified by the fact that Americans demand fresh-tasting eggs the year around for table use. The egg industry has accepted and met the challenge by developing scientific storage facilities that preserve eggs for long periods in their original state of freshness.

Storage Eggs

The essential elements for satisfactorily storing eggs are: low temperature, proper humidity and a satisfactory circulation of air that is free from the odor of other products. Step by step, progress has been made in reaching high standards of egg storage. One important advancement has been in safeguarding the quality of eggs which are to be stored. This is done chiefly by keeping them cold from the moment they are gathered from the nests until they reach the storage rooms. Egg dealers now know that a fresh egg is not necessarily a newly-laid egg. Freshness is a matter of quality. Eggs which are kept cool have every advantage over those which are allowed to become warm, no matter how recently these may have been laid.

Frozen Eggs

Frozen eggs are used by bakeries and other establishments doing much baking. During the months when eggs are plentiful some of the surplus goes to egg breaking establishments to be prepared for freezing. Eggs may be either frozen whole or the whites and yolks may be frozen separately. Many of the ready-made foods we buy today are made with frozen eggs.

Dried Eggs

Originally most of our dried eggs were imported from China. Since 1930, however, the dried egg industry has grown considerably in our own country. Dried eggs are used largely by manufacturers of commodities such as prepared flours. Dried eggs, of course, are another means of utilizing the surplus at certain times of the year, and drying also furnishes another method of making eggs available at all seasons.

Choosing Your Eggs

In some parts of the country people buy only brown shell eggs. In other sections they prefer eggs with white shells. Color of shell, however, is not a matter of real importance, for it has nothing to do with the food value of the egg itself. The color of the yolk, on the other hand, may or may not be an indication of the food value of eggs. Some breeds of chickens lay eggs with darker yolks than others. Also in the spring, when hens first eat a great deal of green feed, the color of the egg yolk is darker

than at other times. The modern practice is to feed hens a carefully balanced diet the year around. This method fosters regular laying and promotes maximum food values in those dietary essentials of eggs which can be influenced by the kind of rations fed to hens.

Eggs are "candled," whether chosen for immediate consumption or for storage. Candling is a commercial process for determining the internal quality of an egg. It consists of "holding the egg before a strong light, usually artificial, in such a way that the rays of light penetrate the egg to a considerable extent, thus enabling the condition of the contents to be noted." Eggs are thus separated into grades based on definite standards of quality.

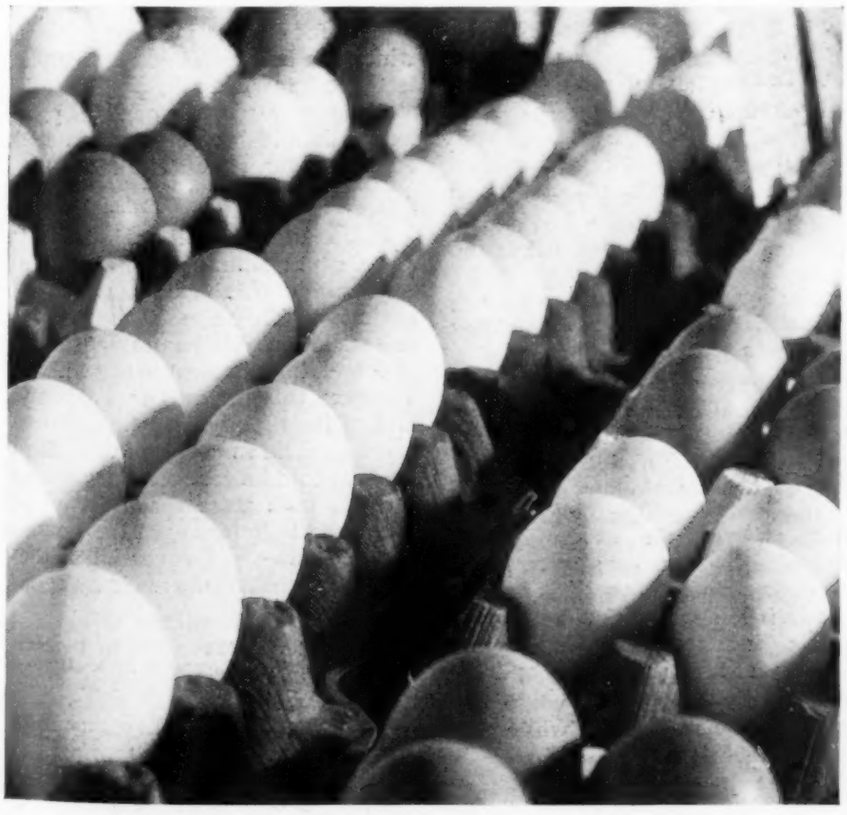
Having purchased our eggs, what do we look for when the egg is broken for using? The yolk of a fresh egg is firm and round and does not tend to break too easily. A flattened yolk and spreading white indicates an older egg. It must be remembered that heat is the enemy of quality in eggs. Those which show poor quality on breaking may not be old eggs; they may merely have been kept in warm surroundings since they were laid. Proper conditions of handling and storage prevent this deterioration.

Egg consumption figures show that in this country each person eats on the average about twenty dozen eggs per year, or a little over four eggs each week. Of course, this figure takes account of the eggs in various forms, including those used by wholesale merchants in preparing bakery goods. Our country ranks near the top as a consumer of eggs. Undoubtedly this is due in large measure to the remarkable developments of the egg industry here and the excellent quality of eggs always obtainable.

Application to the Classroom

If time permits, students will enjoy learning more about eggs than can be told here. A visit to a cold storage plant, where they can watch eggs being candled and, if possible, see them being prepared for freezing or drying, will make pupils aware of modern methods of handling eggs. Such experiences should add interest to the following experiments which show what foodstuffs are contained in an egg.

The first step is to get at its contents. Eggs are easily taken apart, and probably no other food is so commonly separated in the ordinary processes of cooking. This is done merely by separating the yolk from the white either in the cooked or the raw egg.



EACH PERSON EATS TWENTY DOZEN EGGS ANNUALLY, ACCORDING TO STATISTICS ON EGG CONSUMPTION.

Experiment with Eggs (1)

Problem

To take an egg apart and to find out what the yolk contains.

Materials

Egg yolk (cooked)
Egg yolk (raw)
Fehling's solution (Parts I and II)
Tincture of iodine
Nitric acid
Ammonium hydroxide
Test tubes
Dropper
Bunsen burner or other flame
Ordinary notebook sheets
Asbestos sheeting
Tripod
Knife
Flat plate
Dissecting needle or forceps

Thirteenth Experiment

Boil an egg. When cool, remove the shell, and separate the yolk from the white. Break a raw egg, and separate the yolk from the white. In both cases save the white for the next experiment.

1. Test a part of the cooked egg yolk for sugar (see first experiment).
2. Test a part of the cooked egg yolk for starch (see second experiment).
3. Test a part of the raw egg yolk for fat (see third experiment).
4. Test a part of the cooked egg yolk for protein (see fifth and sixth experiments).
5. Test a part of the cooked egg yolk for ash (see seventh experiment).
6. Test a part of the raw egg yolk for water (see ninth experiment).

Results

1. No reddish color appeared when Fehling's solution was added, showing that egg yolk has no sugar.
2. No blue color appeared when iodine was added, showing that egg yolk has no starch.
3. The grease spot which appeared when raw egg yolk was spread on notebook paper showed that egg yolk contains fat.
4. The moderate odor of burned feathers when egg yolk was burned and the slight orange color which appeared with the nitric acid and ammonium hydroxide test showed

that egg yolk contains some protein.

5. The ash which remained when some of the egg yolk was burned showed that egg yolk contains mineral matter.

6. The dried appearance (or the lessened weight) of the egg yolk on exposure to air for several hours showed that egg yolk contains water.

Conclusions

The foodstuffs present in egg yolk can be determined by simple tests for sugar, starch, protein, ash and water. Egg yolk contains fat, protein, ash and waier but does not contain sugar and starch.

Adaptation to Lower Grades

It is not advisable to carry these experiments out in detail with young children. Only the tests which give a definitely positive reaction should be used. At the lower ages children will be particularly interested in the physical structure of the egg, the process of cracking the shell properly in order not to break the yolk and how to separate the yolk from the white in a raw egg.

Ewing Galloway

IN THE METHOD OF TEACHING HEALTH DESCRIBED BY MISS LATIMER, PERSONAL APPEARANCE WAS EVALUATED IN TERMS OF SUCCESSFUL APPLICATION FOR EMPLOYMENT IN A BUSINESS OFFICE.

Experiment with Eggs (2)

Problem

To find out which foodstuffs are contained in egg white.

Materials

Egg white (cooked)
Egg white (raw)
Fehling's solution (Parts I and II)
Tincture of iodine
Nitric acid
Ammonium hydroxide
Test tubes
Dropper
Bunsen burner or other flame
Ordinary notebook sheets
Asbestos sheeting
Dissecting needle or forceps
Tripod
Knife
Flat plate

Fourteenth Experiment

1. Test a part of the cooked egg white for sugar (see first experiment).

2. Test a part of the cooked egg white for starch (see second experiment).

3. Test a part of the raw egg white for fat (see third experiment).

4. Test a part of the cooked egg white for protein (see fifth and sixth experiments).

5. Test a part of the cooked egg white for ash (see seventh experiment).

6. Test a part of the raw egg white for water (see ninth experiment).

Results

1. No reddish color appeared when Fehling's solution was added, showing that egg white has no sugar.

2. No blue color appeared when iodine was added, showing that egg white has no starch.

3. No grease spot appeared when raw egg white was spread on notebook paper, showing that egg white contains little or no fat.

4. The distinct odor of burned feathers when egg white was burned and the definite orange color which appeared with the nitric acid and ammonium hydroxide test showed that egg white is rich in protein.

5. The ash which remained when some of the cooked egg white was burned showed that egg white contains mineral matter.

6. The dried appearance (or lessened weight) of the egg white on exposure to air for several hours shows water in egg white.

Conclusions

The foodstuffs present in egg white can be determined by simple tests for sugar, starch, protein, ash and water. Egg white contains protein, ash and water but does not contain sugar, starch and fat.

Adaptation to Upper Grades

Older students will be interested at this point in assembling their information obtained from the experiments. They can list the dietary essentials found to be present in egg yolk and those present in egg whites. Together this list will include several of the dietary essentials which make eggs an important food. Students should be reminded, however, that no tests were made for vitamins, and therefore even their complete list does not cover all of the dietary contributions made by eggs.

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Teacher: BETTER BUYMANSHIP, BOOKLET No. 1. *Poultry, Eggs and Fish.* Household Finance Corporation, 919 N. Michigan Ave., Chicago.

* * * *

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[NOTE: For further information on the subject of eggs, consult Marion Dartnell's article, "What's in an Egg?" on page 355 of this issue.]

Little Journeys Among High Schools: VIII

By JEAN V. LATIMER

Again we have a chance to visit many schools and look at the work being done through the eyes of an expert. This time we note the ingenious and effective methods by which health classes attack learning units. Miss Latimer is coordinator of health education, Massachusetts Department of Public Health.

FEW senior high schools have a logically outlined course of study in health instruction; but in numerous places we are beginning to see health taught in relation to the actual life problems and interests of the boys and girls themselves.

It is generally conceded that such instruction should not be a review of what is taught in the junior high school; moreover it should not be recitation on textbook information of physiology and hygiene. Nor should the lecture method be used with high school pupils.

A new method of teaching in terms of the learning unit, with individual activities culminating in class discussions, is being increasingly used for health teaching. While the general aim of health teaching is to improve the health behavior of the learner, such desirable behavior is often dependent on factual data and on the interest in interpreting such information for personal guidance. The teaching unit which places the learning on a pupil activity basis is thus becoming more and more effective.

Collecting health data, consulting printed material, making surveys, making and using illustrative materials, conducting experiments, making visits, securing speakers and setting up exhibits—all are among the pupil activities I have observed in the high schools. Studies in the field have indicated that boys and girls of high school age demonstrate a wide interest in health topics.

Making a study of the factors underlying a pleasing appearance is an interest approach to many of the problems of health. I found one teacher asking a class of senior high school girls the following question, "What items in personal appearance would you look for if you were employing a young woman in your office?"

With such an approach the group started working together under the teacher's guidance to discover to what extent a pleasing appearance depends on health. The "Self-Check on Appearance for Teen Age Girls," distributed by the Massachusetts Department of Public Health, was used extensively. Such scoring for individual pupils is an analysis of both their good and poor points in regard to such items as weight, posture, teeth, skin, hairs, nails, bodily cleanliness, as well as other evidences of general vitality.

I heard one intelligent girl introduce this discussion: "Do you have to be beautiful to be good looking?"

Another made this contribution: "Good grooming is becoming such a science you can do an awful lot even with plain features; but of course there are certain fundamental bases."

"And aren't the fundamentals practically all based on the efficiency with which your body works, which in a large measure is determined by your habits of daily living?" contributed the teacher.

An opportunity was taken at this time to suggest that the class review and enlarge their knowledge of physiology as related to physical structure, such as weight, height, muscular development, facial appearance, gait, gesture and quality of voice.

As I observed such dynamic treatment of physiology I thought of how different it was from the old-fashioned type I was taught in high school: "Mary, stand up and say the technical names and numbers of the bones in your body."

There was a lively discussion also as to the chemical factors underlying personality as related to the endocrine glands. One of the girls undertook a report on Cannon's study at the Harvard Medical School on the effect of fear and anger on the digestive organs. Reports were also made as to the result of a shortage of certain vitamins in the diet and how such deficiency would affect both animals' and man's behavior.

A consideration regarding the Chinese proverb, "Natural beauty is always skin deep," provoked the class to review the function and construction of the skin and to list its values to good looks. Such questions as these came up: "What does naturalness mean in a person's appearance?" "How may skin disorders be prevented?" and "When should you consult a doctor regarding skin trouble?"

In this study the motion picture, "The Skin," proved a valuable visual aid. The teaching films, "Circulation" and "Circulatory Organs," also helped in showing the relationship of the blood and good nutrition to the condition of the skin. These are available at the Eastman Kodak Company, Rochester, N. Y. The Massachusetts Department of Public Health will also lend these films free of charge to schools in the state.

Another girl said that she had read in a beauty column that it was better to clean your face with cold cream than to wash it, which provoked interest and discussion.

As a pupil activity each member of the class selected for evaluation two articles from a current newspaper or woman's magazine regarding the care of the skin and other items of good grooming. As a result the class was thus taught to distinguish between standard and poor beauty aids.

Personal cleanliness in the care of the body and in one's clothes also received consideration. The girls were impressed by the following quotation of the late president of Bryn Mawr College: "It is a matter of bath rather than birth which helps the modern girl to rise."

The value of good posture not only to health but as a personal and business asset proved to be another good lead. In one high school classroom I visited, I found the teacher making use of the "silhouettographs" taken by the physical education department as one incentive for having the girls improve their posture.

A member of the class told about spending the summer two years ago on Cape Cod near the famous summer playhouse at Dennis and observing each morning a young woman walking back and forth across a field with a book on her head. "And do you know," she said, "I went to the movies the other night and saw that girl, for she is now one of the new stars in Hollywood!"

The "pedographs," also taken by the physical education department, were used as the basis of a poster campaign for the wearing of proper

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shoes. "Low Shoes for Work and Play" and "High Heels Only for Social Activities" became the slogans for posters which illustrated the idea of fitting your shoes to the occasion.

In connection with how they might improve their appearance, I found girls studying their home diets and writing down what they had eaten for lunch the day before in the school cafeteria. Teaching emphasis was placed on making popular a school lunch of such protective foods as milk and green vegetables.

Although the change in styles has reduced the prevalence of dieting among high school girls, it is still a problem which is receiving consideration by health educators. I found one class inviting the school physician in to explain the chart "Gain in Height and Weight by Years for Girls" and describing to them the new methods of judging proper body development through gains in weight rather than by average weight. The girls themselves kept individual weight graphs in order to see if they were making regular gains.

"Protect Your Smile" became the caption for posters which illustrated the three following factors in good dental care: nutrition, brushing teeth, systematic visits to the dentist.

In this class the girls were asked to define mental health and to discuss how good mental health may affect a girl's appearance. They considered the necessity not only for good concentration on school work but the necessity for play and outside recreational activities, the avoidance of worry and the need for self confidence and self reliance.

Each girl was asked to make a list of her hobbies and to see if by the end of the school semester this list could not be enlarged.

Not only in the interest of good health, but for good poise the conservation of energy through rest and sleep was emphasized. Each girl made a spherical graph to illustrate the importance of budgeting time and living within twenty-four hours a day.

In the study of personal appearance as related to health, one class investigated all the protective health measures which were offered by their school, such as: periodic medical examinations, tuberculin testing, special audiometer testing, the school lunches, the physical education program and other school activities which indirectly contribute to building both mental and physical health.

Such health instruction, taking as its goal, "How I may improve my good points and live within my physical limitations," is constructive health teaching based on the actual interests and problems of the high school pupils themselves.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

PLAN FOR RECREATION

That recreation facilities should be provided for in the new blocks of housing developments is the point of a report returned recently by a special committee appointed by the National Recreation Association to study this problem.

In entire neighborhoods which are now being constructed with dwellings which will last for generations, there is promise of the provision of adequate light, air and open lawn areas but little indication of adequate open space to be permanently dedicated for recreational use.

The committee's recommendations embody these points: consultation and planning with recreation authorities when building; individual play lots within each block or group of dwellings; neighborhood playgrounds for children; adult recreation space, and consideration of indoor amusement facilities.

The committee's full report is now ready for distribution in a thirty-two page booklet entitled "Play Space in New Neighborhoods" and may be obtained from the National Recreation Association at 315 Fourth Ave., New York City, for 25 cents.

Occupational Therapy in Mental Hospitals

(Continued from page 344)

of us, has little original talent, the intricacy of a prescribed pattern or the combination of friendly colors provides interest and satisfaction. Further than that, each may be simplified for the needs of the very ill. It may be that a man is so surrounded by his worries and so buried in his fears and conflicts that he may have little attention to spare to the outside world and less energy to apply to its demands. It is possible that all he can do is to wind reed or yarn. To us who are well, that seems a stultifying task; yet to him it may be the one thing that can hold his attention and divert him from his eternal preoccupation with his difficulties.

The individual who is less sunk within himself, yet who is also moving in a fog of depression and fear and who feels that the world has ended for him or that there is nothing left for him but further catastrophe—he too may be soothed by the rhythm of the task and interested in a particular pattern, intrigued by a certain color combination in the reeds for his basket or yarn for his woof. Again this very rhythm, here with a lack of stimulating colors and intricate patterns, may serve to quiet the nervous, energetic, overwrought, too active person, whose restlessness and tension tempt him to dash from one thing to another, exhausting himself and those around him by his zeal and activity.

There is much in the transference of energy—to give it a technical name—in substitution or replacement. We all do it. The golf player who breaks his clubs or stamps his ball into the ground while he swears at his bad luck is a familiar figure. Then there's the woman who takes her car out to drive miles after a disastrous afternoon of bridge or who furiously assaults the kitchen cupboard when angry at her husband. The patient does the same thing. He may work off his energy by hammering metal or thumping his loom. One man pounded his piece of woodwork until he had vented his irritation and then set about smoothing out the dents he had made in a most workman-like manner. A woman of wealth and refinement whose despair and restlessness turned against herself had to be watched in order to prevent her from tearing out her eyes. One day she was given a roll of wool and some empty toy coverings. In stuffing the toys not only did she forget her troubles, but she worked off the energy that was destroying her. And when a nurse had sewed up the animals and added the eyes for her, and the first one was sold—even though she didn't need the money—her exultation was great. It was important that she had done something that was of value to some one else, something that some one else desired. And as a result of this evidence of the value of what she could do, her self respect was, in a measure, restored.

When an attempt is made to evaluate the effects of occupational therapy in the psychoneuroses, those crippling ailments for which no organic basis can be uncovered, it is found that perhaps the most therapeutic result is the redirection of the patient's interest and its wooing from introspection and fixation on bodily symptoms.

Not infrequently occupational therapy brings the first constructive interest into the lives of the patients; it may establish lasting interests. Many of them have met unsympathetic treatment at home in the interval between falling ill and entering a neuropsychiatric hospital. They may have been scolded for their disease, told it was all in their heads and that they should snap out of it. The neurotic, who is likely to be a suggestible, sensitive individual, has not been aided by this treatment; it has only contributed to his loss of confidence in his ability. Certainly it has not helped him develop habits of organized, constructive work, of punctuality and of harnessed ambition.

Without the overpowering authority of the physician and the institution-like aura of the nurse or orderly, the therapist comes as a potential friend, some one who is interested in the patient. She may make the acquaintance of the patient on the ward before he is well enough to be engaged in work. She chats with him, perhaps brings him books and magazines, the package of chewing gum he has been wanting. She listens to his stories about himself. Gradually, he learns of her enthusiasm for her work and hears of the intriguing things that are being made in the shop. At last the day comes when he is shown some of these things and the suggestion is made that he might like to try what he can do. The whole aim of hospital treatment of the psychoneurotic, it has been said, is to develop, along with a different attitude of mind, working habits that will again enable him to take his place in society and make an adequate adjustment.

"We try to develop the patient's initiative, if he has any," remarked one therapist, "and to awaken some in him if he has mislaid it. We try to help him abandon his attitude of giving up and saying 'I can't' and go over to the side of the fence where he will say, 'I can. I'm going to, I will.'" One of her patients had an injury to his arm. After a time, it became a question whether the arm were useless because of the injury or because the person had learned to think of it as useless. His physician sent him to the occupational therapy shop. He was given a loom on which to work and told this was something he could do with one hand. A loom had been selected that could be worked with one arm but that was a little awkward manipulated so; it was much easier to work with two. The man was left alone. For a time he worked with the one hand and then, unconsciously, began using the other.

A woman had been in bed for two years, too weak, she felt, to get up, uninterested in everything, concerned only with her own deplorable illness. An attempt was made to develop a spark of interest by suggestion. The aide took a number of articles made in the shop to show her. Among them was a small reed basket. The woman acted as though she would like to be interested but she was just too exhausted to show much enthusiasm. Finally, she said she thought she might be able to do a little embroidery. A piece of work was given her. It didn't go so well. She wasn't greatly interested in it, and besides she was too tired. A change in her treatment was made. Two

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UNDERNEATH IT ALL . . . A VASSARETTE

weeks later she was up in the shop asking for work. The thing she wanted to do was make a basket such as she had seen. Her basket was a success. When she recovered, it was the one thing she wanted to take home with her.

The problem isn't always that simple. Again and again, a patient comes to the shop, looks around, decides he isn't interested, that he won't come back. Sometimes he isn't interested because he is too absorbed in his own troubles. Sometimes he feels that he is above the work available. One man wandered about the shop for three days, meddling into that, interfering with this person's work, messing up that bunch of material. With classic cynicism he scorned every suggestion made for his occupation. It was all too simple; he was above such child's play. Finally, he was left alone to roam as he pleased. On the fourth day he suggested that he make a lid for a certain basket. The shop needed it. The balls of yarn kept in the basket would get all covered with dust if they weren't covered up. Then he wanted to make something for himself; his interest was caught.

The therapist becomes a diplomat. Her problem is complex. She must lure a patient into working, even though he does not want to work. She must interest an individual in something outside himself —though he is concerned only with his own thoughts and fears and pains. She must enlist the service of an individual who feels himself too good for the type of work offered. And having done all this, she must teach him to do something new, keep the job from becoming stale, make it ever more complicated and varied so that it does not become a background, a pattern into which abnormal thoughts and desires may be woven. And, finally, she must see to it that he does not waste materials by working too rapidly, too carelessly or too inattentively.

How does she do it? Part of it seems to be done by assuming that the person will want to work. Part of it is done by making him feel wanted and welcome. Part of it is done by getting him into a group of enthusiastic workers who are interested not only in what each is doing for himself but in the progress of his fellows—in other words, challenging him with the Joneses. Part of it is done by getting him to want to make something for himself or for some member of his family. Part of it is appeal to his pride in accomplishment. And part of it seems to me just plain alchemy.

Still, there is a simpler side to it. Occupational therapy may become a beneficent circle. The mere doing of some work may help one sleep. A better sleep may mean more energy which can be harnessed into doing more work. Rolling a tennis court, putting a screen on a basement window, digging in one of the hospital flower beds or watering the lawn may become therapeutic, not only because it takes the patient outdoors but because it permits him to do something in which he can see his results and, more than that, something that he may have done before, something that other men who are not ill and shut away from their jobs are doing. It helps him feel that he belongs. In addition, there is actual pleasure in creative activity. We all like to do things, to make things, to manipulate elements in our environment so that they become of advantage to us. As one physician has said, our brains have survived through evolution down through the ages because they keep us in sensitive touch with the real world of other living beings and things. They do this by producing prompt responses to outside happenings, by thoughts, reasoning, memories, all sorts of automatic responses to external stimuli. The trouble in insanity is that memories and thoughts are accepted and produce behavior even though they are at variance with or opposite to reality. A patient may see a small or a large fact that needs changing for his own advantage and then develop enough interest to twist that reality into a more advantageous one. If he can then be led to produce a plan and make that change, the first step toward getting back into useful contact with the world has been accomplished. "If a patient sews on a lost button," he concluded, "it will often do more good therapeutically than all the drugs we have."

"He who believes in nobody knows that he himself is not to be trusted."—*Auerbach.*

WHITE ESKIMO CHIEF

(Continued from page 363)

were in dire need. In his love for "fire water" the Eskimo is not unlike the American Indian. It takes little to get him drunk, and when intoxicated he is ready for a shooting and cutting spree.

The Chichinak Eskimos were a little more fortunate than their neighbors to the East. A white trader had endeavored to establish a trading post at this place with an Eskimo in charge. Consequently when the famine came on them, there remained in the post a fair supply of barter goods, such as beans, rice, flour, sugar and tea, foods which the Eskimos will not eat when they can get their own raw meats and blubber. Aside from what the men had consumed in the making of brew there was enough to tide them over the peak of the starvation period. Although the trader may not know it, he automatically paid for the relief of the Eskimos in this village and may as well charge the amount off to his good will fund, because he will never collect a single piece of raw fur in payment.

In this village, I experienced some difficulty in deciding on a suitable place to stay. The trading post, the only frame building in the colony, appeared to be the most likely place, so I moved in with my effects. A floor covered about half of the small room. In a corner, I discovered a number of fairly decent reindeer hides which would make a good bed. When I had cared for my dogs and established myself in my night's quarters, the visitors began to crowd in. Soon no standing room was left. Perched on my grub box, I traded a few items of food and tobacco to them for such trinkets and old home-made articles as they would bring. By "moccasin telegraph" the news spread that Atanak, my title among the Eskimos, which meant Big Chief, had *chooyamuk*, or tobacco, and chewing gum to trade. For a while, business was so brisk that I was forced to go into temporary bankruptcy, else I would not have enough trade goods left to buy my dog food for the remainder of the journey. Furthermore, the cabin had to be cleared in order that I might get some fresh air. The stench of their urine-tanned fur garments, not to mention the high odors from their filthy, unwashed bodies, was giving me a headache. The door was thrown open, and before long I could prepare my supper.

A canvass of the homes in this village showed the people well on the way to recovery from the famine. Chichinak proved to be a village almost as large as Kipnuk. It contained a population of 157, out of which number there would be a possible school population of 38 pupils. However, actual classroom work might well be abandoned in this village until the people and their homes have been brought to a fair state of cleanliness. Several years of intensive instruction in sanitation and hygiene supplemented by generous material aid would be necessary before any degree of success would crown a program of popular education in this village.

[To be concluded.]

Many Doctors Say To Mothers

THUMBS UP ON CHEWING GUM

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Practically everybody enjoys refreshing Chewing Gum. The daily chewing of a wholesome stick of gum helps to cleanse and polish your teeth. And the delicious bit of sweet helps give you a corresponding bit of energy. At the same time the chewing helps you to relax. If children like to chew gum, let them — it's good for them and doesn't interfere with their appetite. Doctor, get several packages of healthful chewing gum today to have on hand in your office — for yourself and as an extra good will bringer to all your children patients. There's a reason, a time, and a place for chewing gum. T-127

Four Factors toward Good Teeth are: (1) Proper Food, (2) Personal Care, (3) See Your Physician and Dentist regularly, (4) Plenty of Chewing Exercise.

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TO AMERICA'S SCHOOLS

Your Health!

HEALTH EDUCATION PROGRAMS

HEALTH education is regarded as one of the most important factors in improving the health of the people. Without knowledge about how to live, there is little chance of achieving better health. In the programs for April this series deals with health knowledge with the following topics:

April 5—Don't Believe Everything. This program deals with health fallacies and things which people believe but which are not true.

April 12—Learning to Live. The program gives common sense advice and suggestions about getting along smoothly with our fellowmen.

April 19—Accidents Don't Just Happen. Suggests ways to avoid accidents.

April 26—What Is a Doctor? How to choose the kind of medical service you want and how to recognize it when you get it.

Detailed briefs of these programs cannot be given here for lack of space. The programs were outlined rather extensively in HYGEIA for April 1938. Reprints were made at the time, but these are practically exhausted, and there are only a few copies of April 1938 HYGEIA available. In most instances it will be necessary to consult files or bound volumes of HYGEIA for this material. As a general guide to teachers who propose to use these programs as supplementary work in their classes, the following brief outlines are published.

April 5: In the offices of HYGEIA where more than 10,000 letters a year are handled and approximately 100 of them published in the Question and Answer Department in the course of a year, many of the questions indicate false beliefs which unfavorably influence the conduct of the individual in relation to his health. Some of these popular beliefs which are not true are highly amusing, while others are tragic in their implications of ignorance.

The radio program "Don't Believe Everything" will set forth a number of these erroneous beliefs and will attempt to show their relationship to the facts. This program appropriately is placed on the nearest possible date to April Fool's Day, but erroneous popular beliefs about health are more serious than April Fool jokes.

April 12: Modern physicians and their patients have become increasingly conscious of the important part which psychology, or reaction of the mind, and personality play in disease and in health. It is well known that apparently serious disease can exist, even when small physical basis for it can be demonstrated, and that the cure of such conditions depends on the discovery and removal of unfavorable circumstances in the patient's life, which have rendered his situation intolerable and have forced him unconsciously to take refuge in illness.

We have also acquired a better understanding of so-called queer individuals whom formerly we ridiculed, avoided or exploited for their peculiarities. Today intelligent persons make a genuine effort to understand and to help these individuals and to understand and overcome their own tendencies toward "queerness." In this direction psychiatrists and psychologists say it is possible for the individual to do himself harm by attempting too much self analysis without the appropriate amount of professional guidance.

The program will show a series of situations taken from real life and will endeavor to point to solutions of the problems.

April 19: The title of this program is part of a slogan widely publicized in the campaign against preventable accidents, namely, "Accidents don't just happen—they are caused." Preventable accidents are due to a variety of causes. Mother holds the baby's open safety pin in her mouth while dressing the infant and either inhales it herself or sets a bad example to the baby, who suffers a like accident. Little sister's roller skates are left on the stairs, and Father steps on them in the dark, negotiating the rest of the stairs on parts of his anatomy not intended for such purposes. Father leaves a cake of soap in the bathtub, and some other

member of the family gets a broken leg. An automobile is backed out of the garage while children play in the driveway, and one of the children is badly injured or killed. A driver takes one or two drinks and is certain that he is not drunk; but his impaired judgment and efficiency bring about an automobile crash. A careless smoker lays down a cigaret, and a lovely home lies in ashes and ruin. Saucepan handles project over the edge of the stove as a temptation to children's exploring hands, and a child lies in the hospital scalded, perhaps to death. Matches are left in the hands of children, and a white crepe hangs on the front door. "Cops 'n robbers," Indians and war games are played with pointed missiles, and children go through life blinded.

The list might be extended indefinitely. We cannot show them all in a radio program, but we will attempt to show enough of them to bring home our point, which is that "accidents don't just happen—they are caused"—by carelessness, slovenliness, disorderliness, neglect, indifference and alcohol.

April 26: It has been said, half facetiously, that the number of doctors in the United States is exceeded only by the number of professors. A well known physician has also declared that among doctors of so many different kinds found in the news today, the doctors of medicine should follow the example of their British colleagues and call themselves just plain "mister." These aphorisms simply indicate that there is great confusion as to what constitutes a doctor.

The word "doctor" really means teacher. It is supposed to be a degree indicating advanced study, and the legitimate doctors' degrees, such as those in medicine, dentistry, law, music, the liberal arts and sciences, are truly indicative of prolonged study and high qualification. Unfortunately, the title has been seized on by charlatans with no real claim to it and by practitioners of healing cults whose cultural education and professional training are far inferior to those required for degrees of genuine significance. In some states such titles are used illegally in spite of repeated prosecutions, while in other states the use of the title, however misleading, is technically legal. Therefore, it becomes important to understand what a doctor is.

The program as put on the air will not attack any cult or system of healing. It will merely identify by his outstanding qualifications the kind of doctor whose services are available to the American people if they will but have the good judgment to choose one of his kind instead of quacks, promoters, charlatans and cultists.

So far as it can be done in thirty minutes of radio time, the program will depict the long and arduous education and training required of a fully qualified general practitioner of medicine, who is capable, according to the five year study made by the Council on Medical Education, of caring for from 85 to 90 per cent of the ills to which human beings are subject. In other words, we will portray a composite and typical example of the beloved family physician, the "G.P.," or general practitioner of medicine, who will always be the backbone of medical practice.

Authenticated News

"ACCIDENTS DON'T JUST HAPPEN—THEY ARE CAUSED!" PREVENTABLE ACCIDENTS ARE DUE TO SUCH SITUATIONS AS THIS: WHEN A LITTLE BOY, PLUS HIS NATURAL CURIOSITY, MEETS MATCHES—SOMETHING "HAPPENS"!

Medical News

OF THE MONTH

Psychoneurosis

The risk of error in making an early diagnosis of psychoneurosis is suggested by P. G. Denker, M.D., New York, in a recent issue of *The New York Journal of Medicine.* He says that out of 1,000 disability claimants in whom such a diagnosis was made, 293 proved by follow-up studies to have some organic disorder. Of the 707 in whom the diagnosis was confirmed, approximately three-fourths recovered within two years of the onset, a little less than half recovering within the first year. Dr. Denker found a definitely high incidence of neurosis among clerical workers, executives, teachers and professional people, in contrast to the greatly diminished number among manual workers and housewives.

Roundworm Infestation

The problem of roundworm infestation deserves far more serious consideration than it has received heretofore, Virgil E. Simpson, M.D., Louisville, Ky., contends in *The Journal* of the American Medical Association. He says that such infestation is more frequent than is generally believed, that it appears to be worldwide in distribution and that the parasite has been known to cause death, contrary to the belief of some physicians that it produces little harm. It can live with equal adaptability in almost any of the abdominal organs, in the blood vessels, lungs and windpipe. When the parasite has entered through the skin a reactionary redness begins within twenty-four hours at the site of entrance, increasing in degree for another twenty-four or forty-eight hours and becoming more annoying by itching.

Diagnosis of roundworm, however, must be made through laboratory identification, inasmuch as merely observing its effect on the patient may lead to confusing its symptoms with those caused by hookworm. Elimination of infestation is not assured unless a thorough systematic cleaning-up program is instituted. Carpets and rugs must be either dry cleaned or exposed to the sun's rays for several days; wearing apparel not damaged by heat should be boiled, other garments should be dry cleaned; floors should be scrubbed with soap and hot water, and those in cellars and outbuildings, if earthen, should also be scrubbed with soap and water. Such household pets as cats and dogs should be either treated or killed. Every member of the family should be searchingly examined.

Change Baby's Shoes Often

The preschool child's feet grow so rapidly that he should have new shoes every six or seven weeks, even though his old ones may not be worn out.

Most defects of the feet among young children result from poorly fitted shoes, and wearing shoes too long before discarding them is a common fault, a recent issue of *The Journal* of the Indiana State Medical Society says.

"If one is careful to note that the tip of the toe is at least one finger's width short of the shoe toe," the article continues, "the shoe should be long enough. The increased use of sandals, tennis and gym shoes has contributed greatly to the defects in children's feet. These shoes offer no support whatever to the growing foot and produce a distortion of the bony structure of the feet, resulting in painful feet as the child grows. 'Leg ache' in children is usually attributed to rheumatic infection. Many cases are caused by defects of the feet."

New Aid for Fracture Setting

A new appliance to aid the rural physician in the setting of fractures of the upper part of the thigh bone (femur) has been devised by Martin B. Tinker Jr., M.D., Ithaca, N. Y. In *The Journal* of the American Medical Association he describes it as a nail director so constructed that it guides three nails to hold the bone in place. It is in the form of tubes which can be removed after the nails are in position. The importance of the device, it is pointed out, is emphasized by the fact that at least one third of all fractures must be treated by rural practitioners and small town surgeons and that fractures of the upper part of the thigh bone have high rates of mortality, crippling and permanent disability.

Cod Liver Oil

Because they may cause a type of pneumonia, extreme care must be used in administration of cod liver oil or other oils during infancy and early childhood, Irving J. Wolman, M.D., Philadelphia, warns in a recent issue of *The Pennsylvania Medical Journal.*

"Lipoid pneumonia may be defined as a low-grade chronic reaction, focal or generalized, which results from the entrance of oily or fatty substances into the pulmonary alveoli (air sacs)," he says.

"Infants should be fed cod liver oil only when awake and while held in a semi-erect or sitting position. Oily nose drops in the first two years of life are potentially dangerous; aqueous solutions for intranasal medication are much to be preferred. Parents and nurses should be warned against the forcing of cod liver oil or other oils when the youngster refuses and resists. The blocking of a child's nostrils in order to make him swallow must be absolutely forbidden."

Thyroid Deficiency and Overweight

Thyroid deficiency is not always associated with overweight, a study by R. M. Watkins, M.D., Cleveland, in a recent issue of *The Ohio State Medical Journal* indicates. Out of 156 patients with thyroid deficiency whom he studied, 41 were underweight, while 13 were of normal weight.